Further Communications ON A REMEDY FOR TUBERCULOSIS.[1]

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THE paper opens with a reference to the statement made by the author in his address before the International Medical Congress with respect to his discovery of a method whereby animals could be rendered insusceptible to inoculation with the tubercle bacillus, or in whom tuberculous changes may be arrested. Pursuing this inquiry in regard to human tuberculosis, he had arrived at certain definite results, of which he would have preferred to have had more experience before publishing them, had not the currency of inaccurate and distorted accounts made it imperative on him to give his own account of his work, imperfect as it may be in certain respects. Experiments were carried on under his direction by Drs. Libbertz and E. Pfuhl, and are still in progress; and patients had been furnished by Prof. Brieger from his policlinic, by Dr. W. Levy from his surgical clinic, Drs. Fränkel and Köhler at the Charité Hospital, and Prof. von Bergmann from the University surgical clinic. To these gentlemen and their assistants Prof. Koch tenders his warm thanks for their aid and the lively interest they took in the investigation.

Reserving an account of the nature and preparation of the remedy, he describes it as consisting of a clear brownish fluid, which can be kept without special precautions, and which has to be diluted for use. These dilutions with distilled water are liable to decomposition, becoming turbid from bacterial vegetations, and consequently inefficacious. This change may be avoided by sterilising the solution by heat and preserving it in a vessel closed with a plug of cotton wool, or by the addition of phenol; but as the properties, especially of very dilute solutions, are thereby impaired, he prefers to use freshly prepared solutions.

The remedy does not act when taken into the stomach; it must be injected subcutaneously, for which purpose he uses a syringe provided with a rubber ball instead of a piston, which allows of its being readily kept aseptic by cleansing with absolute alcohol. To this he ascribes the freedom from local abscesses in all the injections—upwards of a thousand—that he has made. After a trial of various spots, the skin of the back between the shoulders and in the lumbar region was selected as the most suitable for the injection, which as a rule produces no local effect and is quite painless. It was soon shown that the action of the remedy on man differed in some important respects from its action on the guinea-pig, the former being far more susceptible to it than the latter. Thus, a healthy guinea-pig may have as much as 2 c.c. injected subcutaneously without being notably affected by it; but in a healthy adult man as little as 0·25 c.c. suffices to excite intense reaction. In other words, regarding the relative body weights, $\frac{1}{1000}$th of the quantity which has no appreciable effect on the guinea-pig is most powerfully active in man. Professor Koch has observed in himself the effects following the injection of 0·25 c.c. into the arm. About three or four hours after the injection he experienced pains in the joints, languor, a tendency to cough, and difficulty in breathing, which rapidly increased; then, at the fifth hour, a very severe rigor, lasting for an hour; then nausea, vomiting, and a rise of temperature to 39·6° C. (103·3° F.). This disturbance ceased at the end of twelve hours, the temperature falling next day to the normal level; the joint pains and lassitude lasted for a few days, and for the same time the site of the injection remained slightly painful and reddened. It was found that the smallest quantity requisite to produce such reaction in healthy individuals was about 0·01 c.c. (or about 1 c.c. of 1 percent. dilution). This amount produced slight joint pain and transient languor, and sometimes a slight rise of temperature to 38° C. (100·4° F.). Apart from this remarkable difference in the dose the effects in animals and men are apparently similar, the most important being the specific action of the remedy upon tuberculous processes of whatever kind. These latter effects in animals he does not now dwell upon, but proceeds to describe them in the human subject.

First there is the very remarkable fact that whereas in health and in subjects of non-tuberculous disease the injection of 0·01 c.c. has hardly any effect, in the tuberculous this quantity invariably produces a marked general as well as a local reaction.[2] The general reaction consists in an attack of fever, mostly beginning with a rigor, the temperature exceeding 39° C. (102·2° F.), often rising to 40° (104° F.), and even to 41° (105·8° F.), articular pains, cough, great prostration, often nausea and vomiting, sometimes slight icterus, with in some cases a measly eruption on the chest and neck. The attack, as a rule, begins in from four to five hours after the injection, and lasts from twelve to fifteen hours. Exceptionally it may commence later and run a milder course. The patient is but little affected by it, and when it has passed he feels comparatively well or even better than before. The local reaction is best observed in cases where the tubercular disease is visible, as in lupus. Within a few hours after the injection (although at a part remote from that which is diseased) the lupus nodules begin to swell and redden, and this commonly before the rigor occurs. During the fever the swelling and redness increase to such an extent that eventually the lupus tissue becomes in places brownish-red and necrotic. This swollen and discoloured portion is surrounded for the depth of a centimetre by a white zone, outside of which there is a bright-red band. After the fever has declined the swelling gradually diminishes, and in two or three days it has disappeared. The lupus areas become encrusted with dried serum, which changes into scabs, and on their detachment in two or three weeks, and even after only a single injection, a smooth red scar is left behind. Mostly several injections are necessary to completely destroy the lupus tissue. Special importance is attached to the fact that the process is confined to the diseased tissues, so that even a minute patch amid scar tissue may be revealed by its swelling and reddening under the influence of the remedy. Owing to these striking objective effects Professor Koch recommends all who wish to study the action of the remedy to begin by observing its effect in lupus. Less striking but still obvious both to sight and touch are the local changes induced in tuberculosis of lymphatic glands, bones, joints, &c., in which swelling and increased pain, with reddening of the surface, become manifest. The local changes induced in the internal organs—e.g., the lungs—are obviously withdrawn from observation, but the somewhat increased cough and expectoration which follow the first injection may indicate them. Here the general phenomena predominate, but one must infer that changes are taking place similar to those presented to view in lupus. Since these phenomena are produced in the presence of tuberculous processes by a dose of 0·01 c.c., the injection may come to be a valuable aid in the diagnosis of obscure cases of the disease and of commencing phthisis, when neither the test of bacilli or elastic fibres in the sputum nor the physical signs yield positive information. So, too, the tubercular nature of obscure gland affections, bone disease, and skin affections may be established. In cases of apparently cured pulmonary or articular tubercle it may show whether the tubercular process has really come to an end, or whether there still remain isolated foci, which at any time might burst into flame just as a spark which has been left glimmering among the ashes.

Of more importance is its therapeutic action. The effect of the injection upon the lupus tissue is to destroy it more or less thoroughly, and cause it to disappear. In some parts the dose may suffice to effect this forthwith; in others the tissue rather melts or wastes away, requiring the repeated action of the remedy to complete the process. How this occurs cannot yet be stated, since histological facts are wanting; but it is clear that it is not by the killing of tubercle bacilli in the tissue, but rather of the tissue which encloses them. The circulatory disturbance evidenced by the swelling and redness shares in this, showing that there are profound changes in nutrition which kill the tissue in proportion to the degree and manner of action of the remedy. That it

[1] Abstract of a paper published in the Deutsche Medicinische Wochenschrift, Nov. 15th, 1890, and reprinted in the Berliner Klinische Wochenschrift of same date.

[2] These effects are produced in children from three to five years with one-tenth of this dose, 0·001 c.c.; in very weak children only 0·0005 c.c. produces a marked reaction, but not such as to give rise to anxiety.

destroys the tuberculous tissue and not the bacilli indicates the limits of its activity. It can only affect living tuberculous tissue. It has no action on that which is already dead, as caseous masses, necrosed bone, &c., nor even on that which has been destroyed by the remedy itself. Living bacilli may still exist in such dead portions, and be either expelled with the necrotic tissue, or, under certain conditions, be able to again invade the neighbouring living tissue. This property of the remedy should be carefully borne in mind, and when possible the removal of the dead tissue be effected by surgical means. Where this cannot be done, and the organism has to get rid of it by its own action, the use of the remedy must be continued so as to prevent the reinfection of living tissue. This selection of living tuberculous tissue by the remedy explains the singular fact that it may be given in rapidly increasing doses, so that within three weeks the quantity may be increased to 500 times the original amount. This cannot be due to toleration, for there is no analogy of so powerful a remedy being so rapidly tolerated. It is rather that, whereas at the first there is much tubercular tissue present, so that a small quantity of the active substance suffices to produce marked reaction, with each succeeding injection the amount of tissue that reacts is diminished, and relatively larger doses are needed to produce the same amount of reaction as before. Within limits, too, there may be a certain amount of toleration. So soon as in a tuberculous subject treated with increasing doses there comes to be no more reaction than in the non-tuberculous, then it may be inferred that there is no more tuberculous tissue to be destroyed, and the treatment would have to be continued with slowly increasing doses and at intervals, so long as bacilli are present in the body, in order to protect against a fresh infection. Professor Koch goes on to say that the future must prove whether this idea and the conclusions based on it are correct; at present he is content to show the way in which the remedy must be applied. In the case of lupus the procedure has been to inject the full dose of 0·01 c.c., and after one or two weeks to repeat it, and so on until the reaction weakens and finally ceases to occur. In two cases of lupus of the face so treated, the affected parts were converted into smooth cicatrices after three or four injections; other cases improved in proportion to the duration of the treatment. All these patients had suffered for many years, and had undergone various kinds of treatment without result. It was the same with cases of tuberculosis of glands, bones, and joints, in which, occasionally, larger doses at longer intervals were employed. Rapid healing took place in the milder cases; slowly progressive improvement in the more severe.

The behaviour of phthisical cases, which formed the majority, was somewhat different; such patients being far more susceptible to the remedy than the surgical cases. It was soon found that an initial dose of 0·01 c c. was too much for the phthisical, and that they would mostly react markedly to a dose of 0·002 c.c. or even of 0·001 c.c.; but that they could bear a very rapid increase of the dose from this minimum. Generally the first injection was with 0·001 c.c., and this dose was repeated on the next and following days if the temperature continued to rise after it; when no reaction followed, the dose was raised to 0·002 c.c., and then by additions of 0·001 or 0·002, until the maximum of 0·01 or more was reached. Such a gradual course is especially needful for those whose strength is feeble. By this plan a patient might be brought to bear considerable doses without fever or without himself being aware of it. In some stronger phthisical subjects the dose was increased more rapidly, with apparently more speedily favourable result. Cough and expectoration commonly increase after the first injection, and then gradually decline or finally quite disappear; the sputa cease to be purulent, and become mucoid. The number of bacilli began to diminish when the sputa became mucoid. Night sweating ceases; the general aspect improves, and there is a gain in weight. Patients in the early stage become free from all symptoms in the course of four to six weeks' treatment, and may be regarded as cured. Even cases with moderately sized cavities are markedly improved and nearly cured. It was only in cases with many and large cavities that no objective signs of improvement take place, although the sputa diminish, and the subjective conditions improve. This experience emboldens Professor Koch to affirm that commencing phthisis may with certainty be cured by this remedy. (In a footnote he points out that this does not imply a definitive cure, for relapses are possible; but it proves that these may be as easily overcome as the original attack. On the other hand, analogy with other infective diseases makes it possible that immunity may be established if cure be once attained, and he reserves this and other questions as open ones.) Advanced cases with large cavities, and mostly complicated by the presence of other micro-organisms in the cavities, and by irremediable morbid lesions in other organs, can only rarely derive permanent benefit from the remedy. But they undergo temporary improvement, showing that even in this class the tuberculous process is influenced as in others, and that failure is attributable to the difficulty of removal of the dead masses of tissue, together with the products of secondary suppuration. It may be found possible to assist in their removal by surgical intervention (similar to that in empyema) or other means. He urgently protests against the indiscriminate application of the remedy to all cases of tuberculosis. The simplest cases are those of commencing phthisis and surgical tubercular affections. But in all other cases there should be careful individual selection and medical treatment used in addition. He therefore pronounces in favour of treating cases in suitable institutions where every care can be taken of the patient in preference to their being treated in their homes. Nor can it be said that the methods hitherto in favour, such as the residence in mountain resorts, fresh air, special dietary, may not well continue to be employed side by side with the new method, particularly in severe and neglected cases and in the convalescence of all. The importance of the earliest possible recognition of phthisis is greatly heightened by the use of this remedy, and should, Professor Koch says, be the aim of every practitioner. For this he lays great stress on the systematic and thorough examination of the sputa for bacilli, a matter which his experience teaches him has been too much neglected. In future such neglect will render the physician responsible for delay in subjecting his patient to a treatment which might save his life, and in doubtful cases recourse might be had to the test-injection, which would establish with certainty the presence or absence of tuberculosis. Then will the new method prove, he says, a blessing to suffering humanity, when every case of tubercular disease is treated as soon as possible, and there are no more neglected cases to form, as hitherto, an inexhaustible source for fresh infection.

The paper concludes by stating that statistics and records of individual cases have been advisedly omitted, the writer leaving their publication to those to whom the patients belonged, and he did not desire to anticipate their descriptions.

Inaugural Address

ON

ANEURYSM, ITS CURE BY INDUCING THE FORMATION OF WHITE THROMBI WITHIN THE SAC.

Delivered before the Midland Medical Society,

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MR. PRESIDENT AND GENTLEMEN,—My first duty is to thank you for the honour you have conferred upon me in inviting me to deliver the inaugural address of the Midland Medical Society. If anything can enhance such an honour, it is the knowledge, on the one hand, that the invitation has emanated from such a great centre of surgical activity as Birmingham, from which so many important advances in surgery have taken their origin, and, on the other, the circumstance of which your President in sending me the invitation duly acquainted me, that you have had in former years to inaugurate the opening of your Society a roll of names each highly distinguished in his own sphere, and including men such as Jenner, Lister, Spencer Wells, and Humphry of Cambridge. Having accepted your invitation, I propose to present you with a few facts concerning the cure of aneurysm by inducing the formation of white thrombi within the sac. In certain regions of the body,

such as the extremities, aneurysms can be so treated by the application of an aseptic ligature applied to the vessel on the proximal side of the aneurysm that this mode leaves little to be desired. There are occasionally, however, even among aneurysms of the extremities, instances of arterial disease of such a nature and extent as to render the application of a ligature upon a large vessel in its continuity hazardous. A mode of treatment which would subject the patient under such circumstances to less risk would be advantageous. In intra-thoracic aneurysms the Hunterian operation is impossible, and equally so in a practical sense on the abdominal aorta. Distal ligature for aneurysm at the root of the neck, though many times successful, especially within recent years, involves a serious operation, often complicated by the presence of the tumour, and there are cases in which it has entirely failed in effecting a cure.

For the last fifty years efforts have been directed to effect cures of aneurysm by the administration of internal remedies, by the lowering of the vitality of the body by starvation with the object of inducing marasmic thrombosis; and where these failed, as they very frequently did, attempts were made, by acting directly upon the blood-stream, to bring about coagulation. It is not intended to give a history of these methods, of which you are fully cognisant. Many of them are highly interesting in detail; all of them point towards a common end, and most have in them some elements of success. I shall draw your attention to the last mentioned method—namely, the endeavour to cure aneurysm by the production of red thrombi. Most investigators who have endeavoured to effect direct occlusion of an aneurysm by the introduction of foreign bodies into its sac have aimed, as far as the *rationale* of their proceeding is intelligible, at producing such an effect upon the blood stream as to cause coagulation of the blood contained in the sac. When success attended their efforts a red thrombus resulted within a very short period. Retardation or complete cessation of the flow of the blood through the aneurysm greatly facilitates the red thrombus formation, the entire mass of blood coagulating simultaneously. This is seen in popliteal aneurysm when cure results from extreme flexion of the leg upon the thigh. Galvano-puncture, while producing coagulation of the blood at the positive electrode, does not arrest the flow of blood through the vessel, and one important element in the formation of red thrombi is consequently wanting. Failure to effect a cure from galvano-puncture is therefore the rule. Many have preferred to stuff the cavity of an aneurysm with quantities of wire, horsehair, or catgut, which were intended to effect the double object of acting as foreign bodies and at the same time to retard the flow of blood through the sac. Some who employed acupuncture arranged the pins with the intention of causing an obstruction to the flow of blood, and so favouring the commencement of coagulation.[1]

Is a red thrombus formed within an aneurysmal sac best suited for its ultimate occlusion, and are the means at our disposal sufficient to command the production of red thrombi in the presence of a vigorous flowing blood-stream? Let us look briefly at the various kinds of thrombi, and the manner in which thrombosis takes place. A red thrombus at an early stage consists of masses of fibrin enclosing red corpuscles and a few white ones, the whole saturated with serum. As the fibrin contracts this serum is exuded, the mass diminishes in bulk, and, though at the outset it may have filled the sac, thereby producing occlusion, yet, owing to this shrinking, the blood-stream may be re-established, especially when the walls of the aneurysm are not collapsible. This has happened in many instances where occlusion lasted some hours, or even days, after which slight pulsation returned, and ultimately the volume of blood passing through the aneurysm became as great as before the formation of the red thrombus. Shrinking continues in this form of thrombus for a considerable period, and may lead, weeks subsequent to the occlusion, to a portion of the channel becoming patent. After occlusion has been effected the red thrombus, which is simply a mass devoid of vitality, undergoes one of several changes. The blood-clot may be acted on in the same way as it would be were it in a wound. It may be penetrated by leucocytes, which absorb the thrombus and replace it by fibrous tissue. This would be the most favourable termination for red thrombi within an aneurysm, but it is seldom seen. Again, the thrombus may become converted into red or into yellow softening. The former is serious, not only from the transformation of the mass into reddish or greyish disintegrating pulp, but from the fact that some of this disintegrating material may find its way into the blood current, and give rise to emboli. Yellow softening is even worse, as here it is not a mere disintegration of the blood-clot, but an intense inflammation of the walls of the vessel, ending in pus production, dependent in all probability on septic contamination. The wall of the vessel participates in the softening process; hence the blood may burst into the surrounding tissues. The blood current may also carry portions of septic detritus into the circulation, causing septic infarctions. The latter form of softening is to be guarded against by preventing septic matter being introduced from without, and by rendering aseptic, prior to operation on the aneurysm, any sore, abscess, or suppurating ear which the patient may have. White thrombi are not liable to either of these forms of softening; the first could scarcely occur in it, while the second is preventable.

The attempts to produce coagulation in aneurysmal sacs by the introduction of foreign bodies into their interior, although occasionally successful, have failed as a rule, especially on aneurysms at the root of the neck or where the circulation could not be controlled on the proximal side of the sac. Those who have endeavoured to produce red thrombi for the purpose of occluding an aneurysm under these circumstances have omitted one of the most important elements, without which success cannot be secured—namely, placing the blood in the sac in a state of rest. In intra-thoracic aneurysms and those at the root of the neck the arrest of the blood-stream is an inherent impossibility, except by occlusion of the sac; and therefore in them this mode of treatment is not applicable. When red thrombi are formed, in the presence of a vigorous blood-stream, they are more liable to disintegration and absorption than to organisation. It is in this way the red thrombus formed on the positive electrode by galvanism is so often of no benefit. But why are there some successes, complete or partial, and how do these arise? It is due to these successful stray cases that a half-hearted belief in this line of treatment still lingers. In the majority of such subjected to pathological examination at various periods subsequently to the complete or partial cure, the sac has been found to contain white thrombi, which, it is assumed, resulted from organisation of the red thrombi. While not doubting that red thrombi may have organised tissue substituted for them, I believe that in many such the white thrombi have originally formed as such, and were caused not intentionally by the operation, nor from any effect upon the blood-stream, but by accidental circumstances quite apart. Thus, for instance, in certain aortic aneurysms treated by galvano-puncture white thrombi have been noticed developed at the points punctured by the needles. These were attributed to the galvanism, whereas they were due to the damaged vessel wall setting up a reparative inflammatory process. This interpretation of the phenomenon receives support from the fact that white thrombi may be produced by penetration of the vessel wall without galvanism. Let us look briefly at the characters of white thrombi.

When the current of blood is unobstructed white thrombi are prone to form in the interior of the vessel, at a spot where irritation has been induced, and from which the endothelium has been removed. At such a part leucocytes, derived partly from the vessel wall, but mainly by segregation from the blood-stream, become firmly adherent to the vessel. When this process has been initiated, it tends to grow by superimposed accretions, so that a parietal thrombus may proceed till complete occlusion occurs. The leucocytes shortly after their deposition disintegrate into a finely granular fibrin which shrinks, but the shrinkage is by no means so great as that which occurs in red thrombi. Where the shrinkage is completed, the white thrombus chiefly consists of an inert body capable of, and subject to, further transformation. The various forms of softening to which red thrombi are subject seldom affect white thrombi. Were the damage to the vessel wall or surrounding structures excessive, puriform softening could occur, especially in the presence of septic matter. The latter is in the majority of cases avoidable. The white thrombus is prone to undergo replacement by vascularised fibrous tissue, the granular fibrin originally deposited becoming absorbed and taking no share in the new formation. The first step in the process is the infiltration of the vessel wall with the leucocytes derived from the vasa-vasorum and the neighbouring

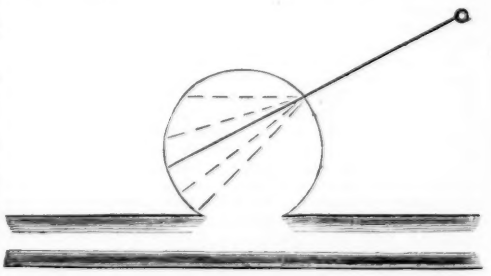
[1] See article by Mr. Heath in his Surgical Dictionary, vol. i. p. 82.

vessels. These penetrate the thrombus, becoming converted into formative cells, which develop into fibrous tissue abundantly supplied with bloodvessels. In this way a thoroughly vascularised connective tissue, blended with the vessel wall, is formed throughout. The vessels of this new formed fibrous tissue are continuous with those of the vasa-vasorum. A good specimen of this highly vascularised connective tissue may be seen in the case of femoral aneurysm referred to hereafter.

It is possible when in an aneurysm the parietal thrombus in process of development has reached the level of the internal surface of the normal arterial tube that it may become covered by endothelium. If so a new channel would be formed with very thick external walls. The restoration of the lumen of the vessel, while securing the cure of the aneurysm, would be an ideal result, which, however, has not yet been obtained. That the thrombus, especially after its development into fibrous tissue, could become covered by endothelium is evident; but under favourable circumstances it may even occur while the thrombus is in an earlier stage. A somewhat analogous process is sometimes seen on the surface of a wound; fibrinous exudations containing many leucocytes may become covered by a layer of epithelium, the formation of the latter keeping pace with the advance of the living infiltrating leucocytes. What occurs with epithelium may take place with endothelium under favourable conditions. Not unfrequently in the ligature of an artery the endothelium has been seen to cover the free portion of the thrombus. It is true that in aneurysms undergoing natural cure the thrombi are very slowly and imperfectly replaced by fibrous tissue. In the young the transformation of white thrombi into connective tissue takes place quicker than in the old with degenerate arteries. In some of the former the accumulation of leucocytes at the damaged wall may be so rapid and so great as to assume the appearance of granulation tissue. When there are extensive calcareous plates in the wall of the vessel or the aneurysm, the formation of white thrombi is seemingly delayed, and when formed seldom pass into a vascularised state, owing probably to the dead calcareous matter intervening between the thrombus and the vasa-vasorum. The deposition of white thrombi occurs so slowly, that in large aneurysmal sacs it is as a rule many months before occlusion takes place. The thinner the layer of white thrombi formed on the wall of the vessel the easier will its organisation be effected; therefore the slower the process, other things being equal, the surer will organisation follow in its wake. If one could so regulate the depositions as to insure organisation of one layer before the next was superimposed it would be advantageous, in cases where no urgency exists. Even in large thrombi, however, organisation takes place, and may become complete. Formative cells may be found developing in white thrombi in the lower animals a few weeks after their formation. In the course of time the connective tissue which has replaced the thrombus shrinks very considerably, so that what has been a large solid tumour quickly becomes reduced to a diminutive size. It is therefore seen that a thrombus formed by acting on the contents of an aneurysmal sac is different from one induced by acting on its walls. The introduction of foreign bodies into the sac of an aneurysm in which the blood is freely circulating, with the object of forming red thrombi, is not the most certain way of producing permanent occlusion of the vessel. White thrombi are more suitable for permanent aneurysmal occlusion under such circumstances.

Granting the aim be to secure a white thrombus in an aneurysmal sac, how can this be accomplished? This may be done by irritating the wall of the aneurysm in such a way as to induce infiltration of the parietes with leucocytes, and a segregation of them from the blood-stream at the point of irritation. The irritation ought to be just sufficient to set up reparative exudation, and must not exceed this. If the irritation be pushed to such an extent as to induce softening of the vessel wall, not only would the object be frustrated, but the pressure of blood from within might cause the aneurysm to burst. Whilst it is true that once the white thrombus has been formed in the interior of an aneurysm it tends to grow by successive accretions, and, by starting at a small irritated point in the wall of the distended vessel, it might ultimately cause complete occlusion. Yet it is better so to act upon the wall of the aneurysm as to produce either a uniform irritation over its whole surface, or to stimulate as many points in its interior as possible. In this way many foci will throw out white thrombi; at all such places the wall of the vessel is being strengthened and preserved from further dilatation. It is well if possible to secure foci all over the sac for another reason: were a white thrombus formed in one part of a sac alone, it might be possible for the blood pressure to be exerted all the more on some other part of the sac not so protected, and so in the case of a very thin wall damage might result. It would be well therefore to ascertain, as far as possible, the form and dimensions of the aneurysmal sac before inducing plastic effusion at any one part of it. This may be readily done beforehand in aneurysms of the extremities; but in those of the trunk and root of the neck it in many cases can only be ascertained by investigation within the aneurysm itself. Fortunately a very fair idea may be ascertained by the very instrument which is intended to induce the cure, and at the same time as the latter is initiated. The means hitherto employed to effect this purpose have been very simple. The instrument employed is a pin of sufficient length to completely transfix the aneurysm and to permit of manipulation within it. Its calibre ought to be as fine as possible, the strength being only sufficient to penetrate the coat of the aneurysm and the intervening tissues. This cylindrical pin tapers to a point, like an ordinary sewing needle, and has on its opposite extremity a somewhat rounded head. As the coats of aneurysmal sacs vary in thickness these pins must be made of various calibres, as those which may pass readily through one aneurysmal sac may not pass through others with thicker walls. They ought also to be finely polished, not only to facilitate their introduction, but to help to render them aseptic.

Before performing the operation the skin over the aneurysm ought to be carefully cleansed and rendered aseptic. The aseptic pin ought then to penetrate the sac and pass through its cavity until it comes in contact with the opposite side. It ought to touch and no more. Then one of two methods may be employed; either to move the pin over the surface of the inner wall so as to irritate its surface, or to allow the impulse of the blood-current playing on the very thin pin to effect the same object. If the wall penetrated by the pin on introduction be dense the former method will be preferable, as the force of the blood-current produces such a feeble action on the thin pin as to be insufficient to move it to and fro, while it is firmly grasped by the dense wall. After acting thus for ten minutes at one part, the point of the pin, without being removed from the sac, ought to be shifted to another spot, and so on until the greater portion of the internal surface opposite to the point of entrance has been touched; this ought to be done in a methodical manner. A single insertion of the pin



through the aneurysmal sac into its interior may be sufficient to enable the point of the instrument to come into contact with the greater part of its internal surface, but in some cases puncture from various sides of the external wall may be necessary so as to reach portions of the tumour which cannot be attacked from the first puncture. While the pin is in the aneurysm it is surrounded by a portion of aseptic gauze, or moistened with an antiseptic solution. When it is withdrawn from the aneurysm, the part ought to be covered with moist antiseptic dressing, preferably a watery solution of carbolic acid, which ought to be maintained for several days. The period a pin may remain in an aneurysmal sac without doing damage is perhaps dependent on the individual and the state of the aneurysm, but it ought never to exceed forty-eight hours. It is questionable whether all the necessary advantages derivable from the irritation of the wall of the aneurysm could not be produced within a few hours. No doubt their retention for twenty-four or

thirty-six hours *seems* to produce a greater effect. If the aneurysm be very large, several pins may be introduced from various points, always allowing a considerable interval to exist between each, otherwise there might be too much damage to the vessel wall at one spot. In some instances the point of the pin has been engaged in the opposite wall of the aneurysm, and it has thus produced sufficient irritation. It need scarcely be said that the general health of the individual and the condition of the aneurysm and of the surrounding tissues ought to be carefully examined before commencing the treatment. If there be anything wrong which could be put right before operating, that ought to be done. No one would think, for instance, of introducing pins into an aneurysm that was inflamed or where the tissues in the vicinity of the aneurysm were in a state of erysipelas. It would also be necessary to render aseptic any sore in other parts of the body which the patient had. When the pin has been withdrawn, though there may be a little thickening of the tissues in the neighbourhood, there will probably be little or no diminution of the excentric impulse. Occasionally it may be weeks before any distinct or tangible thickening of the coats can be made out. In other instances this may be discernible at a much earlier period. But, as a rule, a distinct thickening of the coats of the vessel is tangible at an early period. It has occasionally happened that some weeks after the first introduction of the pins, the walls, though thickened, appeared to be so only to a slight extent; whereas when a second puncture of the sac was made, a much stouter pin was required to penetrate the coats than the one which on the first occasion slipped easily through the walls of the aneurysm, showing that there was a greater thickening than was indicated by external palpation. Further, in one instance had the amount of dense fibrous tissue within the aneurysm been rightly appreciated, it is probable that a death from suffocation would not have been permitted, at least without an endeavour being made to save the individual by operative means. It is also to be borne in mind, especially in deep-seated aneurysms, that the thickening appreciable on the external surface of the sac through which a pin has passed is much less, as a rule, than that on the part of the sac acted upon by the points of the pins, and therefore the one farthest away from the point of entrance, and which cannot be reached by manipulation. Thus irritation of the coats of the aneurysm has been in some of my cases many times repeated at intervals of weeks, and in one case of months, with the view of hastening the consummation of the cure. Though there was apparent advantage after each, it is doubtful whether the formation of white thrombi was not going slowly on independent of this interference. It is clear the coats of the aneurysm cannot be reached by the pin after they have been covered by a thick layer of white thrombi; the extremity of the pin must therefore come in contact with the dead thrombi alone. Were the previous layer of thrombus vascularised, then the secondary introduction of the pin would be of service in coming into contact with living tissue, and setting up in it fresh irritation and fresh deposition of white thrombi.

In introducing pins, care ought to be taken to avoid injuring important structures which may be overlying the sac. The cords of the brachial plexus may be raised by aneurysm at the root of the neck; it would be necessary, in order to prevent pain, to insert the pins apart from them. Where the aneurysm is inaccessible from without, this mode of treatment could not be applied, but most of the aneurysms of the chest whose physical features can be determined, and whose limits are clearly defined, may be subjected to this form of treatment. When a sac is covered by calcareous depositions, it is possible that these may exercise a deterrent influence in the production of thoroughly organised connective tissue forming in the thrombus. The younger the patient, other things being equal, the quicker would the white thrombus form. Suppose complete consolidation may not be effected from the treatment, the thickening of the coats of the aneurysm may prolong life, especially if it be uniform. Though this method has been adopted of producing the necessary effect upon the wall of the sac, any other mode of carrying out the principle of the treatment, the occlusion of the sac by the formation of white thrombi, and its consequent organisation into living tissue, might be used, provided it showed any advantage. One would be inclined by preference to use any means which, while being equally successful and easily applied, would do away with the necessity of penetrating the sac.[2] Let me now turn attention to some clinical evidence of the value of this mode of treatment in curing aneurysm. In doing so the cases presented are not arranged chronologically, but in pathological order.

CASE 1. *Aortic aneurysm, seen at an advanced period when threatened by impending death from dyspnœa, treated by induction of white thrombi within the sac, the treatment being cut short within the month by fatal dyspnœa.*—S. U——, aged thirty-two, an engineer, was seen by me in private, in consultation with Drs. Hunter and Middleton, early in November, 1887, suffering from an aneurysm which projected from the chest above the clavicle, on the right side of the root of the neck, and was supposed to be either purely aortic or an aortic aneurysm involving the innominate. For a year previously he had been affected with symptoms pointing more or less directly to aortic aneurysm. As these symptoms increased, he had to desist from work. Subsequently he consulted many surgeons and physicians, principally in England, who all advised him against operative interference. On a number of occasions he had had attacks of breathlessness, so severe as to threaten a fatal termination. There was no syphilitic history. On examination an excentrically pulsating swelling was seen at the inner extremity of the right clavicle, and occupying the episternal notch, which seemed to cause the sternal end of the clavicle to project forward. The trachea was distinctly pressed to the left, and somewhat overlapped. On percussion over the upper part of the sternum and its neighbourhood, an area of dulness was detected, measuring from two to two and a half square inches. The right pulse was much feebler than the left. There was inequality of the pupils. The patient noticed a marked alteration in tone of voice within the last four months. The slightest exertion caused a feeling of shortness of breath, while independent of exertion he had severe attacks of dyspnœa. Severe pains were experienced at times passing down the right arm. There was no difficulty in swallowing, and his general health was fairly good. Urine normal. His medical attendant stated that his mind wandered occasionally, and that his articulation became slightly slurred. Neither of these was detected by me at this examination. Although the case presented many unfavourable signs, especially the violent paroxysmal dyspnœal attacks, it was thought that the production of white thrombi within the sac might be induced with comparative safety, especially as the patient did not require to be placed under the influence of an anæsthetic. With any other treatment, such as double ligature on the distal side of the aneurysm, an anæsthetic would have been necessary, the administration of which would have been dangerous in the presence of a displaced and somewhat flattened trachea. To have performed tracheotomy at a part of the trachea sufficiently low to afford relief to the obstruction would have entailed the exposure of the overlapping aneurysmal sac, with the possibility of immediate disaster from damage to its walls; and failing that, the probability of rapid enlargement of the aneurysm in an anterior direction by removing the controlling support of the deep fascia of the neck, which extended over it. A pin was inserted into the aneurysmal sac at the beginning of December, 1887. It was found that the cavity of the aneurysm passed downwards within the thorax towards the aorta. The pin was made to transfix this cavity until it came in contact with the internal wall on the opposite side from the point of entrance. After it was allowed to remain in one position for about an hour the point was changed to a fresh surface on the internal wall, and so on until the greater portion of the sac within reach of the pin had its internal wall slightly irritated. On several occasions the pin was placed in such a position that its extremity barely

[2] It must be pointed out that the method of inducing the formation of white thrombi within the sac is different from acupuncture which has been employed by several surgeons, chiefly with the view of inducing coagulation of the blood. Pins were used by me for the induction of white thrombi within an aneurysmal sac first in 1875, the case being published in the Glasgow Medical Journal in 1876, and in THE LANCET for 1877. Mr. Christopher Heath reported a case in January, 1879, in which he used pins crossed so as to arrest the circulation of the blood. The patient died seventeen days afterwards. This aneurysm was filled with dense fibrin. Mr. Marshall introduced a number of very small gold pins into a sac, some time anterior to Mr. Heath's case. His patient, though improved, was not cured. Mr. Chauncy Puzey of Liverpool tried pins during seven weeks in an innominate aneurysm in 1880; the patient died seven weeks after from chronic cellulitis.

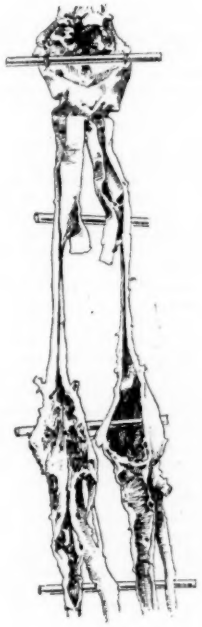
touched the internal wall, while it was left free to move to and fro by the impulse of the blood. In this way a slight scratching of the wall resulted. Several times the pin was retained in the sac for twenty-four hours, and once for forty-eight hours. The pins were inserted on seven occasions, with a few days' interval between each. Considerable consolidation had taken place, although the exact amount could not be measured owing to the impulse of the blood. Hopes were entertained, however, of a somewhat speedy consolidation. Unfortunately, on Dec. 26th he had an attack of dyspnœa, attributed by himself to a slight cold. This soon passed off, but was followed by another on Dec. 31st, which was so severe as to raise the question of immediate tracheotomy. The risks of the operation were fully put before him and his medical attendants, but the patient begged for delay, urging that he had been very much worse on several occasions and had recovered. He thought that he would be right in a very short time. This prediction, however, was not verified, as he succumbed to asphyxia two hours after the medical attendants left.

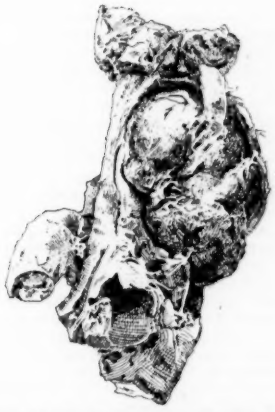
A partial post-mortem was permitted thirty-six hours after death. The following points are extracted from the report. The lungs were full of dark fluid blood. The larynx, trachea, and bronchi, along with the heart and great vessels, including the aneurysm, were removed *en masse*. The trachea was pressed to the left and almost flattened in that direction. It was likewise somewhat rotated, the back part appearing towards the tumour. The cartilages on the tumour side were acutely bent into the lumen of the trachea, so that it would have been difficult to have inserted a tracheal tube during life. The heart was large and the right side much congested. The aneurysm was fixed between the sternum and the spinal column, was adherent to both, and had caused slight erosion of the osseous tissue on both sides. In removing the aneurysm from the sternum a portion of its coat, which was adherent to the bone, was torn, the rent exposing the white thrombus in its interior. The aneurysm pressed upon and was organically adherent to the trachea, the lower part of the tumour pressing upon its bifurcation. Its upper border reached the thyroid gland, its lower the aorta. The aneurysm was aortic, springing from that part of the arch from which the innominate takes origin. The opening into the innominate was found half an inch inside of the aneurysm. The innominate vessel passed over the outer wall of the aneurysm, the coats of both being incorporated. The carotid was likewise joined to the aneurysmal sac for a short distance. The vagus nerve was closely adherent to the outer wall of the tumour. The aneurysm was divided as nearly as possible into two equal parts. The whole section of the aneurysm, as measured obliquely from below upwards, was three inches. Its outer wall was an inch and a half in thickness, the cavity an inch, and the inner wall half an inch; so that two-thirds of the interior of the aneurysm had been filled with a white, firm, laminated thrombus, which was greatest on the inside of the outer wall, along which the needles played; much thinner on the inner wall, through which the needles were merely inserted in order to gain the interior of the sac. It was thinnest of all in a cavity at the upper portion of the aneurysm, which extended behind the trachea, and to which no needle had been directed, as it was not known to exist during life. The specimen, consisting of the aneurysm and its relations to the aorta, great vessels, and trachea is before you, so that everyone can see for himself the amount of firm white thrombi produced by this treatment somewhere within a month. (See illustrations.) Had the deposition continued at the same rate, it is evident that complete occlusion would have occurred within a few weeks. Had the amount of firm white thrombus which had occurred within the sac, as we now see it in the specimen, been fully known before death, I would have insisted on the performance of tracheotomy, believing that the dangers of exposing the sac were greatly minimised by the presence of this thick wall of fibrin. I regret that tracheotomy was not performed, as a tube might have been passed down to a sufficient extent to have relieved the obstruction. The other lesson to be derived from this case is the important one of endeavouring to ascertain if possible the form of the sac, and of bringing the pin into contact with each portion. Here one part escaped which was not known to exist,—namely, that minute portion which lay behind the trachea. This is the only part of the wall which was not thickened by layers of fibrin. It is true that, in this instance, it would not have been of much consequence, as the occlusion of the part nearest the aorta was in process of being completed, and had this occurred this diverticulum would soon have shrunk.

CASE 2. *Aneurysm of the upper part of the right femoral, involving external iliac, measuring five inches in diameter, cured by induction of white thrombi within the sac; patient died thirteen months subsequently from carcinoma of the tongue.* — In March, 1875, a patient presented himself with a large aneurysm, occupying the upper part of the right femoral and distal part of the external iliac artery. There were, besides extensive arterial degeneration, a minute aneurysm of the left femoral and a probable aortic one. He attributed the aneurysms to over-exertion in a hot climate and while suffering from malarial fever. There was no syphilis.[3] The aneurysm of the upper part of the right femoral had existed for three years, during which it gradually increased, but much more rapidly just before coming under observation. When examined by me, the aneurysm, which was somewhat circular in form, occupied the upper portion of the right femoral and the distal inch of the external iliac. It measured five inches in transverse and a little more in vertical diameter. Its anterior wall was very thin; at one place it seemed as if only the skin and a very thin sac intervened between the examining finger and the circulating blood. The patient was much afraid the aneurysm would burst. He had undergone prolonged medical treatment—rest, low diet, iodide of potassium, &c., and had been dismissed incurable. He subsequently consulted a number of surgeons in the hope of having a ligature applied to the external iliac, but they declined to interfere in this way on the ground of the extensive arterial degeneration. Under these circumstances he applied to me (I was not then surgeon of a hospital), stating that he was willing to have anything tried which would offer a chance of benefit. He was then treated by me at his own home. Pressure applied to the common iliac for twenty-four consecutive hours failed to produce the desired effect. This was followed by pressure applied immediately above and below the tumour, maintained for four or five hours daily during a fortnight without benefit. Flexion of the limb on the abdomen was also resorted to, without resulting improvement. At the expiration of three weeks of pressure treatment the aneurysm remained in exactly the same state as it was before it was began. During the ensuing fortnight all treatment ceased. The patient was out of bed, and walked a little every day. At the end of the fortnight he had two days' rest in bed, and on the night of the third day, April 13th, at 12 P.M., pressure was applied to the common iliac artery until the pulsations in the sac entirely ceased. A long steel pin of fine calibre was then introduced into the sac, and passed through it until it touched the internal surface of the opposite side of the aneurysm. It was left in that position for ten minutes, when its point was withdrawn somewhat, and then directed to another part inside the sac, when, after the same interval, it was again shifted to another position. Twelve different points of the sac wall were thus acted on, the pin being left in contact with each of these places for ten minutes. At the end of two hours the pin was removed, pressure over the puncture being maintained for about five minutes. Fifteen minutes subsequently the pressure on the common iliac was gradually removed. The thin wall of the sac then seemed to me firmer, but those who assisted and the patient could not recognise any improvement. The pulsations in the sac were as vigorous as ever. Twelve hours afterwards the walls felt firmer, and everyone admitted that a change had taken place. This thickening of the coats became greater daily, the solidification occurring five days after the insertion of the pin. The aneurysmal sac was then converted into a solid ball, which still moved with arterial impulse, but there was no excentric pulsation. Contraction and solidification continued from this time. On April 28th, fifteen days after the operation, the patient felt so well that he rose from bed and had a short walk in the open air. He did so against orders; notwithstanding this, he made a rapid recovery. He went to the country during May, and returned to his work in town at the beginning of June fully restored. He was presented to the Glasgow Pathological Society on Oct. 12th, 1875. He con-

[3] This case was presented to the Glasgow Pathological Society on Oct. 12th, 1875. It was reported in the Glasgow Medical Journal, January, 1876, and in THE LANCET, Oct. 13th, 1877.

tinued to work, and was in the enjoyment of good health for nearly eight months afterwards. At the end of this time he presented himself with an ulcer on the tongue, which proved to be carcinomatous, and for which he was treated palliatively in the wards of one of the surgeons in the Royal Infirmary, as the case was not considered by him suitable for operation. He was then dismissed, and died at his own house, after a lingering illness, on May 13th, 1876, thirteen months subsequent to the obliteration of the right femoral aneurysm. For four or five days previous to his death he lay in a state of deep coma. In accordance with his often expressed wish and the provisions of his will, a post-mortem examination was to be made and the arteries given me for further examination, as he took an intelligent and keen interest in what he was pleased to call his "case." Confining our remarks to the condition of the arteries, it was seen that all the larger vessels were subject to calcareous degeneration. A large aneurysm existed in the descending part of the aortic arch. There was a small aneurysm on the left femoral, and the remains of an obliterated one on the right. I present the preparation of these two aneurysms, looking at the left first, the one which had not been treated; it will be seen that it is filled with a *red* stratified thrombus, easily separable from the vessel wall. This formed during the many weeks prior to his death, in which he was reduced to the extreme exhaustion and emaciation of a patient dying from carcinoma of tongue and throat. There was a channel still patent through this aneurysm, by which a diminished blood-stream still flowed. The aneurysm of the right side, instead of measuring five inches in longitudinal and tranverse diameter, as it did before operation, now measures two inches long and three-quarters of an inch in breadth at its broadest part. It presents a hard, solid mass, which on section is seen to be composed of a dense, vascularised, fibrous tissue. (See illustrations.) Histologically, it presents dense connective tissue, interspersed with numerous blood-vessels. The femoral vessel below the aneurysm is partially occupied by a thrombus, which shows little or no organisation. Here, then, is obliteration of the aneurysm, its place being taken by a mass of living tissue.





CASE 3. *Aneurysm of abdominal aorta, treated by induction of white thrombi in interior of vessel; cure interrupted by patient feeling so well that he determined to resume work after a month's treatment, though the tumour was not consolidated; patient still alive two years and a half subsequently.*—An aneurysm at the upper part of the abdominal aorta was sent me by Dr. Peden in March, 1888. The patient was an engine driver, and had suffered for many years from pain in the gastric region, but it was only just before he presented himself he detected a swelling at that part. The pain and the strong arterial impulses prevented him from working. There was no syphilis. The tumour was situated in the upper part of the epigastric region, was somewhat circular in form, and measured three inches in superficial diameter. Its dimensions from before backwards could not be measured, but it presented a marked prominence in front. The stomach and intestines were inflated with gas in order to determine their relation to the tumour. It was found that they lay below the tumour, that a free surface of the tumour presented externally. He complained of a constant aching pain of a gnawing character, which was aggravated when he tried to stoop or to bend his back, and seemed to indicate some vertebral lesion, probably produced by pressure of the tumour. The patient was subjected during the month of March, 1888, on three occasions to irritation of the internal coats of the sac,

after each of which there was a notable thickening of the wall; the force of the pulsations diminished at the part, and the pain and discomfort greatly lessened. As the tumour subsided, the stomach began to overlap it in front. At the end of the month the sac had receded to such an extent that it could not be clearly made out other than a hardened mass heaving with the aortic pulsations. At this stage it was difficult to detect excentric pulsations. Unfortunately, at the end of this period, one month from the commencement of the treatment, the patient insisted upon returning to his work; he felt so well, believed he was quite better, and could not be persuaded to the contrary. It was with apprehensions he was permitted to go, as in that early stage of thrombus formation, with an artery still patent, the increased strain on the coats of the aneurysm by the severe exercise often entailed on an engine-driver might undo the good already begun. He, however, continued to work, and was in seeming good health when last heard of, two years and a half afterwards.

CASE 4. *Intra-thoracic aneurysm, probably left subclavian, accompanied by great swelling, pain, numbness, and loss of power in the left arm, treated by induction of white thrombi within the sac; complete consolidation of aneurysm and restoration of function of arm.*—Mrs. W——, aged forty-four, a housewife, was sent to me by Dr. Glaister on Feb. 23rd, 1889, suffering from a large pulsating tumour at the root of the neck on the left side, accompanied by much swelling and pain of the left shoulder and arm. The patient, who was a rather stout woman, had been in good health till a year previously, when she began to complain of pains in the left shoulder, with stoonds extending down the arm. These she attributed to rheumatism. She found they were always relieved by rest. Three months previous to admission the left arm began to swell, and its power to be impaired. Two months subsequently she experienced a tingling sensation, accompanied by a numbness extending from the left shoulder to the finger tips. When she was admitted the arm was found to be markedly œdematous. She had little or no grasp, and the power of movement was so deficient that she was unable to lift the arm to the level of the shoulder. Cutaneous sensations were diminished. She complained not only of shooting pains of great severity passing from the shoulder to the finger tips, but also of numbness in the whole arm. It was evident that the condition of this arm was due to the pulsating tumour at the root of the neck which occupied the space between the sternum and the vertebral column, exercising pressure upon the subclavian and other veins in the vicinity, and greatly stretching the nerves; the cords of the brachial plexus extending over its surface. It was diagnosed as an aneurysm of the left subclavian; and although there was a large tumour, which could be seen and felt above the level of the clavicle, yet this was merely the dome-shaped roof of an aneurysm, existing within the thorax, as was evidenced by an area of dulness extending below the clavicle and over the sternum for a couple of inches in a downward direction. The upper wall of the aneurysm was very thin. Occasionally she had attacks of dyspnœa and slight congestion of the lungs, especially the left. It is probable that the first of these was due to pressure either upon the trachea or on the recurrent laryngeal nerve; and the second possibly was due to some slight pressure upon the bronchi and impediment to the pulmonary circulation. There was a marked difference in the strength of the left from that of the right pulse, the former being much weaker. Treatment: The skin was first thoroughly rendered aseptic; then, on Feb. 27th, 1889, an aseptic pin was introduced, and the dimensions and form of the internal aspect of the sac were made out as far as possible. For this purpose a pin of five and a half inches in length was used, and the whole of it was inserted, with the exception of about an inch, before the opposite wall of the tumour was reached in a downward direction. Deducting half an inch for the thickness of the tissues intervening between the tumour and the skin, that left the diameter of the cavity in a downward direction as somewhere about four inches. The sides of the cavity were much more easily approached; and although it was much more difficult to give the precise dimensions of the breadth of the cavity, it was probably about three inches. The pin was then permitted to remain in the cavity for about nine hours, its extremity being frequently changed from one part of the sac to another, its point on each occasion being left free to move over the surface of the sac as the force of the stream of blood in the interior might direct. This was repeated on March 3rd, 17th, and 24th, a gradual thickening of the walls of the aneurysm ensuing. This was marked not only by the sensation communicated to the finger externally, but by the fact that on each occasion when the pin was attempted to be introduced greater difficulty was experienced in penetrating the coats of the vessel, while at the outset a pin of very fine calibre was introduced with facility through the sac wall; it required one much stouter and more rigid to penetrate the sac during the last insertion. So much improvement attended these four introductions that they were discontinued for four months. During this period there was some improvement in the diminution of the swelling of the arm, and considerable subsidence of the pain. She was allowed to go about for a time, attending to her household duties. Subsequently there was much thickening in the aneurysm and great diminution in the pulsation; it was not so near the surface, but still there was a doubt as to whether it was not excentric. It might have been that the tumour was pushed upwards with each aortic wave, and being dome-shaped conveyed the impression of an excentric pulsation. On five subsequent occasions a pin was introduced, with the object of hastening the consolidation. On each of these it was difficult to say what the internal dimensions of the cavity were, and during the last two of them it was doubtful whether the pin entered any cavity. The walls were so thick that the pin could not be made to move to and fro as it formerly did; certainly it never reached the opposite wall of the aneurysm, and it was, therefore, questionable whether good was derived from its use; with this feeling the use of the pins was discontinued. During the months that followed there was slow but continuous improvement, and a year subsequently to the commencement of the treatment it seemed to have completely consolidated, though there was still an impulse apparently communicated from below. From this point the tumour began to decrease in volume, the œdema totally disappeared from the arm, and the numbness and tingling sensation soon followed. Till a late period the pulsations of the radial artery continued much as they were before the beginning of the treatment, but gradually they diminished in volume, and for some months it was questionable whether the pulse could be detected at the wrist. (It is now, however, completely gone.) The power of the arm was gradually restored, and she was then able to resume all her ordinary duties. At the present time she is in excellent health, and one can feel a hard mass, about a third of the bulk of the original tumour, by dipping the fingers somewhat behind the clavicle. In this case the consolidation has been very gradual, but steady from the beginning. The treatment was carried out without any hitches and without the use of an anæsthetic, very little pain being experienced except on one occasion, when a branch of the brachial plexus had been touched by the pin during its introduction. It is probable that besides acting locally on the aneurysm, in addition attention to the general state of the individual may facilitate the formation of white thrombi. By placing him in good hygienic surroundings, by limiting or so regulating his diet as to produce an effect upon the leucocytes in the blood, by the administration of drugs, and by keeping the patient in a state of rest—any or all of these may have the effect of hastening the desired end. These are some of the points to be wrought out in the future. It is well, however, that the fact is established, that white thrombi may be induced simply by the direct local action, without any aid from other directions. No doubt some cases will be found more suitable for this form of treatment than others; some in which the white thrombi will form more readily and some more slowly, and possibly others in which it will not take place. Future experience will decide. I trust that this form of treatment will not be indiscriminately employed upon every case of large aneurysm, especially upon those which are beyond hope, otherwise the method will be discredited. The very simplicity of the treatment, the facility with which it may be carried out, without even the use of an anæsthetic, and with a comparatively limited anatomical knowledge, make this word of caution necessary. The cases of uncomplicated aneurysm must be few in which the introduction of an aseptic steel pin into its sac would be productive of harm. Disastrous results would easily follow the introduction of a pin carrying septic matter with it.

In conclusion, whether this precise method of inducing white thrombi within the sac be accepted matters little, if we accept the fact that every aneurysm contains within itself a potential cure. We have only to devise methods of calling it forth.

THE TREATMENT OF LUPUS ETC. BY DR. KOCH'S METHOD.

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THE announcement in the papers that the fluid for carrying out Dr. Koch's treatment could be obtained from Dr. Libbertz has brought medical men from all parts of the world to Berlin, in the hope of obtaining some of the magic elixir. This statement, however, is absolutely contrary to fact at present, and probably will be for some time to come, the limited supply now available being reserved for those gentlemen personally known to Dr. Koch, whom he has appointed to demonstrate his method. In England, as I have no doubt you will be informed from other sources, the two fortunate gentlemen selected are Dr. Heron and Mr. Watson Cheyne. Although the distribution of the fluid is at present thus restricted, the demonstration of the method is freely thrown open to all medical men desiring to see it, and it is that which I have thus witnessed that I am about to relate. As it is impossible to do more than repeat what one is told as regards phthisical cases, I propose to restrict myself to lupus cases.

As Dr. Koch's announcement to the world is so recent, I need only make a few general statements as to the method of procedure, to save repetition in individual cases. In any local tuberculosis, such as lupus, enlarged lymphatic glands or bone disease, the first injection is one cubic centimetre of a 1 per cent. solution, or, as it is expressed here ·001 of a cubic centimetre of the original fluid. In an hour or two the temperature begins to rise, reading within twelve hours from about 39° C. (102·1° F.) to 41° C. (105·4° F.) accompanied by the other symptoms which generally accompany this state of high fever, shivering or vomiting being frequent prominent symptoms, and, at the acme of the fever, profound sleepiness. A couple of hours later the temperature is falling, and within twenty-four hours usually, but sometimes longer—in one case forty-eight hours—the temperature has become normal, and the attendant general symptoms have disappeared. As a rule, the fever is in proportion to the amount of tubercle; but in certain cases the temperature has risen to the extent above mentioned, where there has been but little recognised tubercular deposit—e.g., in one lymphatic gland. In non tubercular disease the small amount, ·001 cubic centimetre, produce no febrile reaction, hence the diagnostic value of the method. As the destruction of the tubercle bacilli, or more precisely of their nidus, proceeds, the febrile reaction gets less, or even disappears, and then a large dose, ·02 to ·06, or even more, is injected, and when such doses no longer produce any febrile symptoms, the direct tubercular element of the disease is destroyed, and the secondary effects, if any, have alone to be dealt with. Dr. Cornet having kindly permitted full notes to be taken of a case in his clinique, I will give it as an example.

The patient was a woman aged twenty-nine, with lupus of thirteen years' duration, affecting the whole right side of the face, and encroaching on the neck, for which she had undergone much previous treatment with unsatisfactory results. The second injection of ·015th grm. was given on Nov. 14th, the first having been ·001 before admission, and the temperature prior to the injection being 35·8° C. In two hours it was 39·4° C.; five hours later it was 38° C., and in eleven hours from the time of injection it was 36·7°. On the 16th an injection of ·02, and the temperature rose in one hour to 37°, in the second hour it was 38°, in the third 39·5°; two hours later it was 38·5°, and a few hours after this it was 36·4°.

She was injected a fourth time in my presence with ·02 of the 1 per cent. solution, the point of insertion being between the shoulders at the upper part on the right side, the left side, where she was injected the day before, being slightly tender; but there is never any inflammatory or other reaction at the point of injection if the syringe is duly disinfected. No reaction followed this; at five o'clock the temperature had not been above 37° C. The local effect is that wherever there is lupus tissue there is redness and swelling of the diseased area and its neighbourhood, attended with copious serous exudation, which oozes out on to the surface and dries into a yellowish crust. This crusting was the condition on the morning of the 17th, before her fresh injection.

In Dr. von Bergmann's *clinique* was a boy of fourteen with lupus at the tip of the nose, who was injected at 10.30 A.M. on the 16th; at 3 P.M. his temperature was 41°, and he vomited at 8 o'clock. When Dr. von Bergmann gave his demonstration his nose was swollen over three parts of its extent, and he was sleeping very heavily. His pulse was 150, his respiration 36 to the minute, at 10 A.M. on the 17th. In a man aged fifty-eight, with a lupus patch covering the nose and cheeks, which had been present twenty-nine years, who had been injected the day before, the whole face was swollen, the cheeks much crusted with exudation, while the nose, which had been to a great extent cicatrised, was swollen, slightly livid, while the epidermis was evidently loosening. From the right side of the patch going down to the lower jaw was a reddened band about one-third of an inch wide, which I was informed was an indication that the lymphatics in this band were filled with tubercle bacilli, and therefore gave an inflammatory reaction.

In another man, aged twenty-four, the cure was the most advanced, and I was informed that it afforded the best results hitherto obtained. Between Nov. 6th and 17th he was injected every other day with the usual dose, and each injection was followed by a febrile reaction of from 39° to 40° C. Although the lupus tissue was apparently gone, he was injected for the sixth time as a test as to real cure, since there was still some general reaction, and locally there was increased redness and exfoliation of epidermis, and the cure was therefore considered not quite complete. The newspaper reports as to a complete cure of lupus in five days greatly overstates the results hitherto obtained. There was, however, a far better result than could have been obtained by any of the hitherto employed methods of treatment during the same or even for a much longer period.

I have only time now to mention one other case of interest in this clinique. It was a case illustrating well the exanthem which may follow the injection of the fluid. This exanthem Dr. Cornet informed me was rare, occurring in not more than 1 or 2 per cent. of the cases injected, and then generally of slight extent. This patient of Dr. von Bergmann was a woman of about thirty, suffering, I believe, from phthisis. She had had five injections of the ·01 of 1 per cent. solution, the first on Nov. 6th, and each injection had been followed by the outbreak of the eruption. This was general in its distribution, though of varying extent in different regions. To my eye it did not resemble measles, but consisted in the occurrence of papules not more than a pin's point to a small pin's head in size, and of a pale-red colour. On the face they were comparatively sparse, discrete, and without any marked arrangement. On the arms and forearms they were also sparse and discrete, and not more on the extensor than the flexor aspect. On the trunk they were most developed and characteristic. The papules, grouped in a herpetiform manner, and with the surrounding hyperæmia of each papule, had coalesced into small irregularly shaped patches of from a quarter to half an inch in their largest diameter studded with small papular elevations. In addition, there were large pin-head pustules (a more advanced stage of the papules) sparsely scattered about the shoulders. The seat of these papules and pustules was apparently the hair-follicles. On the lower limbs the lesions were larger, flatter, more livid, red, and slightly scaly, but still situated at the hair-follicles, and very abundant. The eruption was attended with no itching or other subjective symptoms. In a case shown by Dr. Cornet there was only slight and sparse follicular hyperæmia.

The tubercular gland cases were also interesting to a visitor, as the changes could be more easily verified than in a necessarily hurried examination, but their consideration must be deferred. Briefly, the treatment is, as far as lupus vulgaris is concerned, more rapidly efficacious in removing the morbid tissue than anything that I know of, except an attack of erysipelas, which will sometimes produce an even more rapid and quite as extensive an improvement; but it is too dangerous an agent to employ

voluntarily unless attenuated in some way. Whether Koch's method cures lupus or any other tubercular affection permanently time alone can prove; at the same time it has fully established a claim to a most thorough and careful trial in all such cases. As far as I could learn, lupus erythematosus has not yet been treated by this method, as it is not generally considered to be a tubercular affection; but some authorities consider it to be allied in nature as well as name with lupus vulgaris, and the result of Koch's treatment would probably be a decisive test of this question. I send the syringe Koch recommends, as it is easily disinfected in absolute alcohol.

Berlin, Nov. 17th.

EXPECTANT TREATMENT *VERSUS* OPERATIVE INTERFERENCE IN CASES OF TUBERCULAR JOINT DISEASE.

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(Concluded from p. 1020.)

As regards phthisis, I believe that it is not uncommonly the result of the local disease either by direct infection or by the local trouble so lowering the general condition of the patient as to render him more liable to fresh infection from without. That phthisis may arise by infection from the joint seems to me the only explanation of the fact that phthisis is most common in disease of certain joints, and not equally common in disease of all joints. Thus in my own statistics, and in almost all those in which the presence of phthisis is noted, I find that it is much more frequent in cases where the tarsus or carpus, and possibly the shoulder, are affected, than where any other joint is the seat of disease. That, apart from the question of auto-infection, the local trouble may predispose the lungs to disease is probable from the fact that marked improvement in the lung trouble, when it already exists, often follows amputation above a tubercular joint. At the same time, early operation does not by any means always rescue the patient from a subsequent death from phthisis, while, as in the last case, it may lead to the very danger it is designed to avoid. Thus, to mention one fact, Middeldorpf found after twelve years and a half that 16 per cent. of those amputated had died of phthisis, 14 per cent. of those excised, and 30 per cent. of those where caseous deposits were scraped out. As regards phthisis, therefore, I do not think that we would be justified in proposing operation with the sole view of preventing its occurrence, although I hold that this hope should have considerable weight where other circumstances are present which point to the desirability of operating—in other words, I think it may be allowed to turn the scale in favour of operation, where otherwise the decision might be doubtful.

The age of the patient is a very important factor. Apart from the fact that different bones and joints become affected at different ages, the age of the individual affects the decision in a number of ways. Thus below, say, twenty years of age, the chances of recovery without operation are much greater than when the patient is older, partly on account of the greater vitality of young tissues, partly because primary synovial disease relating to primary osseous disease is more frequent in early life than at adult age, and partly also probably because of the two types of primary osseous disease sequestra are relatively less frequent in children than in adults. Again, early life, by excluding certain operative procedures such as excision, affects the question, in that in cases occurring in childhood in which excision happens to be the only operation likely to do good, one must persevere much longer with expectant treatment than one would if the patient were an adult. For excision of joints in children leads to very serious interference with the growth of the limb, an interference due not only to loss or cessation of action of the epiphysial lines in the immediate neighbourhood of the joint affected, but also to trophic disturbance in the whole limb. The presence of a marked hereditary taint generally implies less resisting power against the inroads of the tubercular virus, and consequently in these cases there is often a great tendency for the morbid products to break down and caseate. Hence the chance of recovery by expectant treatment in these cases is less, and the operative measures must often be radical. The existence of tuberculosis elsewhere, more especially the presence of phthisis, is a matter of great moment in considering the question of treatment. Where marked phthisis is present, the local trouble seems to exercise a very unfavourable influence on its course, while the complete removal of the local disease is often followed by a surprising improvement in the state of the lungs and in the general condition of the patient. Hence, under these circumstances, operative interference is often almost imperative, unless the general condition of the patient is so bad as to contraindicate it, and that operative interference must generally be of the most radical kind. The social position of the patient is also a factor of considerable importance. Apart from the possibility or impossibility of suitable attendance, good food, change of air, &c., a poor man, especially with others dependent on him, may require to get well quicker than a rich one, while in poor children under bad hygienic conditions the case is less likely to do well, and complete removal of the disease at a comparatively early period may be desirable. The advisability of early operative interference depends to some extent on the part affected both in relation to the greater ease and completeness with which we can eradicate the disease in one joint than in another, and also in relation to the subsequent usefulness of the limb. Thus, in the case of the hip-joint operative measure to be effectual must be severe, while a limb which recovers after expectant treatment in good position is, undoubtedly, in the majority of instances, a more useful limb than one which has been excised, and, therefore, in the case of hip-joint disease expectant treatment should be longer persevered in than in the case of almost any other joint. On the other hand, in the elbow-joint, for example, the parts are often more easily accessible without such a severe operation as excision; while it is frequently of great importance to have a movable joint, and therefore an operation may be performed in cases which would recover, but with a stiff joint, if treated by rest and other expectant measures. The local condition is a most important point in determining the question of expectant treatment *versus* operative interference. We may at once divide cases of tubercular joint disease into two great groups from the point of view of the question under consideration—viz., those in which chronic suppuration has occurred and those in which there is as yet no visible breaking down of the tubercular deposit. Cases in which chronic suppuration has occurred, leaving out of account for the present those in which the abscesses have burst before the patient came under notice, are no longer suitable for expectant treatment, for the day is now past when chronic abscesses should be allowed to burst or left in hope of their absorption. It is not part of my subject to go into the treatment of chronic abscesses, or indeed into any form of operative treatment; but I may say that while I do not at all agree with the dictum laid down by Mr. Barker that the occurrence of suppuration in hip-joint disease (I do not know whether he applies it to other joints or not) is an indication for excision, I think that when suppuration occurs the whole question of operative measures should be carefully considered, and in any case we can now procure more rapid and more certain recovery by operative measures of a somewhat more severe character than simple aseptic drainage, although by that method we have had many excellent results.

Excluding, then, cases in which suppuration has occurred, and leaving out of account in the meantime those in which septic sinuses are present, we have to determine in what of the remaining cases we should employ operative measures, and in what we should content ourselves with expectant treatment. I have already pointed out that the disease probably most frequently commences not diffusely over the whole joint, but at one part from which it spreads over the rest; and thus, in cases seen at an early stage, we may either find a localised swelling or a general thickening of the whole textures of the joint. This localisation of the disease in the first instance is, I think, a point of extreme importance, for if we get the cases before the whole joint has become involved, we may, by early and free removal of the affected portions, cut short the disease and restore the functions of the joint, and therefore it is of the greatest importance to recognise the early beginnings of the disease, and not allow the favourable moment to slip by. These

cases are, no doubt, very difficult to diagnose in the early stage, but I feel sure that if they are looked for a considerable number, especially of the osseous deposits, will be found and recognised. I have now operated on some half a dozen cases of this kind—not nearly so many as I could wish,—and I can recall others which came under observation before I thoroughly understood the importance of the matter in which I would now intervene by operation. Of the cases which I have had affecting the ankle, tarsus, elbow, and knee, I have only had recurrence in one instance.

Of cases seen at a later stage of the disease, where suppuration has not yet occurred, we have three great classes—viz., those where diffuse synovial thickening is accompanied by, and usually secondary to, an osseous deposit, those where there is diffuse synovial thickening alone, and those where either of the above conditions is accompanied by marked deformity. As regards the first of these conditions, I may say that, as far as I have had the opportunity of investigating the matter, I believe that, while in the case of disease of the synovial membrane complete cure, with disappearance of all the tubercular tissue, is not an uncommon occurrence after expectant treatment, this is much less frequently the result in cases where there is an osseous deposit. In these cases the apparent recovery is too often merely a period of quiescence, rather than a cure of the disease, and therefore in these instances the trouble is apt to break out again; sometimes, after a comparatively slight injury. Hence, in cases where there is undoubtedly an osseous deposit I believe that the best thing for the patient is to interfere by operation, in the case of children by removal of the deposit and the thickened synovial membrane (arthrectomy), in adults by excision, if possible. The cases which are most likely to do well under expectant treatment are those where the disease is limited in the first instance to the synovial membrane, and more especially those where the thickening is not very marked and is pretty firm; and in children I should employ expectant treatment in the first instance in all cases of diffuse and pure synovial disease, and persevere in it so long as matters were steadily improving, or, at any rate, not becoming worse. If, in spite of treatment, the thickening steadily increases and becomes softer and other parts of the joint become involved, the question of operative treatment must, of course, be taken into consideration. Where in addition to the disease of the joint deformity has occurred which can only be remedied by operation, then the age and general condition of the patient play an important part in the decision as to whether operation should be performed at once or whether it may be delayed for a time. I think that in most cases in children where there are no other circumstances which demand operation—that is to say, where, were it not for the deformity, expectant treatment would be employed, and where excision would be necessary to remedy the malposition—it is better to leave it alone till the patient has attained adult life; of course, employing apparatus to prevent further deformity, and perhaps remedy, or at least improve, what exists. The deficiency of growth due to disuse will be less than that following excision.

The last point which I shall touch on is what form of treatment should be employed when septic sinuses are already present. Shall we simply dress the wounds and go on with expectant treatment as if there were no sinuses present, or shall we adopt some form of operative treatment? Of course, when the sinuses lead to osseous deposits outside the joint there can be no doubt that the proper treatment is to clear out these deposits and remove the wall of the sinus. Where in children the sinuses lead to thickened synovial membrane or into the interior of the joint absolute immobilisation and pressure may be employed for a time, provided that there is not much discharge and nothing in the general condition to contraindicate delay. Although in some cases great improvement follows this treatment, I cannot say that I have been favourably impressed by my experience of it or by what I have read, and I think that in most cases where septic sinuses are present some form of operative interference is desirable. Of twenty-one cases in my statistics which were admitted with septic sinuses, and in which expectant treatment was employed, only two completely healed, and most of them were discharged from the hospital in much the same condition as when they were admitted. A septic state of the part aids the spread of the tubercular virus by weakening the vitality of the tissues, and therefore the thorough removal of the disease seems more desirable than where there is no sepsis. At first I was inclined to think that the presence of septic sinuses contraindicated arthrectomy, but of late I have several times performed complete arthrectomy in children under these circumstances, sponging the parts afterwards with undiluted carbolic acid, and with very good results.

To sum up. Operative interference is desirable in the following cases: where chronic suppuration has occurred; at an early stage, where the disease is localised to one part of the synovial membrane or bone; in many cases, at a later stage, where there is a deposit in the bone along with general synovial thickening; in cases of diffuse synovial thickening, where expectant treatment has failed to arrest the progress of the disease; in cases where a better functional result can be obtained by operation; in cases, in adults, where deformities are present which can only be remedied by operation; in many cases where there are septic sinuses; in certain cases where phthisis is present, or the general condition such as to require removal of the disease; in adults more frequently than in children; in the poor more frequently than in the rich Expectant treatment should be employed in the first instance in cases of diffuse synovial disease without suppuration provided that there are no other reasons requiring operative interference, and it should be persevered in so long as improvement follows; also at first in cases in children where osseous deposits are present in parts where they cannot be reached without excision or in cases where the presence of deposits in the bone is doubtful; also in some instances where septic sinuses are present. In any case it should be persevered in longer in children than in adults. It will thus be seen that I limit the sphere of expectant treatment considerably, and this limitation is mainly due to the fact that under aseptic precautions we can now cut into joints at an early stage, while they are as yet comparatively healthy, and remove portions of synovial membrane or bone without fear of doing harm by our operation and with a good chance of ridding the patient of his disease and getting a useful joint. The cures by expectant treatment when it is carried to excess are often obtained only at a great expenditure of time and after great endurance of pain and at a certain risk to the patient; and it by no means follows because a good result is obtained in any given case by expectant treatment that it would not have been wiser, and that in a number of similar cases the results would not have been on the whole better, had operative measures been employed.

In thus attempting to indicate the limits of expectant and operative treatment, I am well aware how far I have come short of what is wanted; but in these diseases, perhaps more than in any other, so many points have to be taken into consideration, and so much depends on the circumstances of each individual case, that it is quite impossible to lay down rules which are universally applicable, and one cannot do more than indicate some of the chief points which must be taken into consideration in coming to a decision. I hope, however, that I have introduced a sufficient amount of contentious matter to enable us to have a good discussion.

CASE OF DIAPHRAGMATIC HERNIA; PERFORATION OF THE STOMACH WITHIN THE PLEURAL CAVITY.

BY G. OSCAR JACOBSEN, M.R.C.S., L.R.C.P.,
AND
T. W. MITCHELL, M.B., C.M. EDIN.

THE following case of perforation of the stomach, revealing at the post-mortem examination a diaphragmatic hernia, we think of sufficient interest to record. The history of the case is as follows:—

On Oct. 10th, 1890, about 7.30 P.M., Dr. Grove of St. Ives received a telegram requesting him to meet the train from Ely, as the guard, E. S——, had been suddenly seized with acute illness. On the train's arrival the man was found crouching on the floor of the van, with his heels close to his buttocks, and supporting himself by his hands, and evidently suffering from most acute abdominal pain. No history could be obtained from him, except that he had been "griped at

times during the day." Dr. Grove, finding the pulse tolerably good, but face anxious, immediately ordered him to be taken home by train, and accompanied him. On arrival there an opiate was administered, and hot stupes were applied to the abdomen. Instructions were given that if he became worse Mr. Jacobsen was to be sent for. The man rapidly became worse, and accordingly Mr. Jacobsen was called to see him about 9.30 P.M. On his arrival he found the patient sitting in bed, with body bent forwards and legs drawn up. He was calling out in the greatest agony. His face was livid and anxious, the surface of the body cold and clammy, and the pulse failing. The abdominal muscles were rigid, but there was no appreciable increase of pain on pressure, and no tympanites. The same treatment was ordered to be continued, with the addition of poultices. During the night there was no improvement, and at eight o'clock next morning Mr. Jacobsen was again sent for, but on his arrival found the man dead.

The necropsy was performed under considerable difficulties, as, owing to the circumstances of the case, the relatives were very anxious that the abdomen only should be opened. It was made by Mr. Jacobsen, Dr. Mitchell, and Dr. Grove. The body was that of a well-nourished man of fifty-seven. On opening the abdomen about 12 oz. of clear fluid and about 2 oz. of curdy pus were found. The intestines showed evidence of commencing inflammation at various points, but peritonitis was by no means general. While the contents of the abdominal cavity remained *in situ* no trace of the great omentum could be seen. What at first sight appeared to be a stomach of small size proved on closer examination to be the duodenum, displaced, and greatly distended. It was lying in the epigastric region, overlapped by the transverse colon, and crossed the middle line of the body from left to right and from above downwards. In shape it roughly resembled a contracted stomach. The intestinal tract below this point appeared normal in shape and relations. On pulling gently on the upper end of the duodenum the pyloric end of the stomach and a considerable portion of the great omentum came slowly through the diaphragm, accompanied by some pus. About two inches from the pylorus was found a clean cut punched-out perforation on the posterior wall towards the lesser curvature, which could just admit the end of a cedar pencil. As no more of the omentum could be pulled through the diaphragm, the latter was carefully opened at the point of emergence of the omentum, and the hand was passed into the thorax, when all the tissues surrounding the diaphragm were felt firmly matted together, evidently by old adhesions. On separating these the hand was passed further up, and the rest of the omentum was felt adherent at various points to the parietal layer of the pleura. The adhesions were chiefly to the outer aspect, and posteriorly, where they extended up to the level of the fifth rib. The thorax was now opened, and on removing its anterior wall the following condition was observed. The left lung occupied the extreme upper limit of the pleural cavity. It was not larger than a man's fist, but appeared to be of a healthy, spongy texture. The heart was displaced far to the right, its left border being just in the middle line, and not bulging at any place into the cavity. The lower portion of the pleural cavity posteriorly, and to the outer side, was occupied by the great omentum, the remainder being occupied by the stomach. Surrounding the seat of the perforation in the stomach there was a large abscess cavity, which, on replacing all the contents of the left pleural cavity, was found to have the following boundaries: above and in front, the pyloric end of the stomach, to the right the pericardium; below the diaphragm, posteriorly and to the left, the great omentum. The latter was considerably ulcerated, and contained pus in its interstices. The pericardial wall was somewhat inflamed. The stomach was of large size, and the mucous surface was practically healthy, except at the seat of the perforation, where it showed signs of chronic inflammation. The ulcer presented on its inner aspect the typical amphitheatre appearance, shelving towards the perforation, which was apparently not of quite recent date. All the other organs examined were healthy, with the exception of the spleen, which was greatly atrophied, being no larger than a supra-renal capsule.

This case is of considerable interest, in the first place, owing to the extreme suddenness and severity of the illness, which terminated in less than twelve hours after the first onset of acute symptoms, and also from the extent of the morbid processes—perforation of the stomach and abscess formation,—which had previously occurred without any evident symptoms. Of greater interest was the remarkable disposition of the abdominal and thoracic organs, and the fact of perforation of the stomach occurring within the pleural cavity. The origin of the hernial condition is doubtful, but the following brief outline of an accident which occurred to the deceased eighteen years ago may show a probable explanation. The man, then a luggage guard, was one evening noting the numbers of his vans, and was bending forwards with his lamp under his left arm when he was caught between two buffers, and the left arm and side were severely crushed. He was carried home, denies having broken any of his ribs, but said "his left side felt as if it had been inwardly broken." For many days he was in great danger, and had complete obstruction of the bowels, "not being able to pass anything through him, nor yet able to vomit." He kept to his bed between three and four months. Since then he has always suffered more or less from indigestion. What we believe to have been the sequence of events which led to the man's death is shortly as follows. The man had long suffered from chronic dyspepsia, which led to the formation of a gastric ulcer. This terminated in perforation, and the formation of an abscess in the situation described was the result. Extending gradually downwards, the abscess eventually discharged into the abdominal cavity through the hernial opening in the diaphragm. This would explain the sudden onset of acute symptoms, which terminated so rapidly in death.

Huntingdon.

A CASE OF OPIUM POISONING TREATED BY ATROPINE.

BY G. H. COOKE, M.R.C.S., L.R.C.P.,
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H. B——, a female, aged forty-three years, was brought to the Royal Infirmary, Manchester, at 6.20 P.M. on August 12th, 1890, by a friend who stated that she had taken laudanum. She walked in with a little assistance, and on inquiry stated that she had taken twopennyworth of laudanum about an hour and a half previously for diarrhœa; from inquiry afterwards I found the amount used was three drachms of tincture of opium. The patient was perfectly conscious, though drowsy; skin normal; face flushed; pupils strongly contracted, though not pin point, and gave no reaction to light; tongue moist, with slight brown fur; breath emitted an odour of alcohol; pulse high tension, 120, regular; legs pitted slightly on pressure. Three minims of liquor atropiæ sulphatis were administered to her hypodermically and her stomach thoroughly washed out, the washings emitting an odour rather strongly of alcohol and slightly of laudanum; strong coffee was also given by the mouth. At 6.35 the drowsiness had increased; the pupils were still the same; three minims of atropine were again injected. During the next half hour the drowsiness increased so much that she could not stand, and the battery was brought into requisition to keep her awake; the pupils were not so contracted; respiration and pulse about the same. At 7.15 the patient could still be roused; pupils as before; respiration becoming stertorous; pulse 95, full and regular; stupor getting deeper and deeper. At 7.40 the condition was much the same; four minims of atropine were injected. At 8.30 P.M. she was almost comatose, and was with difficulty roused by the battery; respiration still stertorous, but no sign of irregularity had developed; skin dry; heat of body well preserved; five minims of liquor strychniæ were injected, and the administration of coffee was continued. At 9.45 the patient was quite comatose; no reaction to battery; respiration now shallower and tendency to irregularity; pulse 90, still, full, and regular; four minims of liquor atropiæ were again injected. During the next half hour a marked improvement had taken place, so that at 10.30 she reacted fairly well to the battery, and the respiration now became less stertorous. The improvement continued, and at 12 P.M. she could easily be roused. At 1.15 A.M. she had recovered so far as to be able to walk with assistance to the wards. A few words will suffice to describe the condition of the patient during the time she remained in the infirmary. The next morning the tempera-

ture was 102° F., pulse 112, respiration 30; at the base of the right lung some fine crepitations, only heard at the end of inspiration, were present; they did not disappear on coughing, and had no characters of friction sounds; no other signs or symptoms were present. Being aware of the liability of such cases to be followed by pneumonia, I gave her twenty grains of sulphate of quinine, and repeated it during the day. The next morning the temperature was normal, the crepitation had disappeared, and in three days she had so far recovered as to be able to leave the infirmary. It should be added that the œdema disappeared within two days of her admission, the urine during which time being clear, acid, 1012, no albumen, no sugar, and no deposit. The pulse still retained its tension, and she gave a history of frequent nocturnal micturition and puffy eyelids on waking in the morning. There was no heart lesion, and it may possibly have been a case of pre-albuminuric Bright's, which would, of course, have increased the danger in the present instance.

Remarks.—The case is of interest from the fact that, although she had taken a quantity of laudanum equal to twelve grains of opium, the respiration, with the exception of once being rather weak and irregular, never failed. Whether this were due to the antagonistic action of the atropine is, of course, difficult to say. Rather more than one-seventh of a grain was given. It is useless to discuss the antagonistic action of atropine and opium, but I used it on this occasion chiefly for the powerful stimulating effect it has on the respiratory and cardiac centres, opium as is well known paralysing the former before it affects the latter; in addition atropine preserves the body heat and so diminishes the chances of collapse, and this was evident during the whole time of its administration. The late Milner Fothergill notes a case in which he injected one grain of atropine at once in the arm of a woman suffering from opium poisoning, and with the best results; its use also in cases of collapse is extending in America. Certainly I think it was of use in this case, for almost the whole of the laudanum must have been absorbed, for the washings of the stomach contained very little.

Altrincham.

A RARE CASE OF EMPYEMA WITH HYDATID CYSTS.

BY JOHN THOMAS,
HOUSE SURGEON TO THE CARDIFF INFIRMARY.

THE following case I saw when away for my holidays last year, and as it presents some points of interest and perhaps of novelty, I venture to record the condition I found the patient in and the operation that was performed for his relief. I regret that owing to circumstances at that time I was unable to get a history of the case of any value.

W. J——, aged thirty-six, a sailor, much emaciated, was sitting upright in bed, coughing incessantly, with frothy pus running out of his mouth. The mother said that he had the "fits of coughing" at frequent intervals, and "had spat up pints of such stuff during the last few days, since he had taken a turn for the worse." On examining the chest, the heart impulse was found in the left armpit; the right half of the thorax was visibly increased in size, and did not react to the hurried and spasmodic respiratory movements, whilst the intercostal spaces were bulging; anteriorly dulness extended from immediately below the right clavicle to about one inch below the costal margin; posteriorly the dulness extended up to the supra-spinous region. The dull area presented loss of tactile fremitus, of vocal resonance, and of breath sounds. In one hour from seeing the patient we got consent to operate for what I considered to be an ordinary case of empyema.

Operation.—After the administration of a few whiffs of chloroform I made an incision about two inches in length immediately below and to the outer side of the angle of the right scapula, dividing everything to within a short distance of the pleura. I then thrust my finger through the intercostal space into the cavity, and a small quantity of pus ran out. As the drainage continued very unsatisfactorily, and my finger could only be insinuated between the ribs with difficulty, and possessing no forceps for resection of a portion of a rib, I at once enlarged the wound, and divided the intercostal muscles close to the lower rib for about three or four inches, when a small pellucid cyst appeared in the wound, suggesting a cause for the inefficiency of the drainage. I introduced two fingers into the pleural cavity and could feel cysts in all directions, and as soon as a current of pus ran out the cysts immediately blocked the intercostal space. In order to enlarge the vertical area between the two ribs I introduced a piece of wood shaped like the handle of a hammer, with its greatest diameter parallel with the ribs; then, by placing the stick at one angle of the wound and forcibly rotating it so that its longest diameter lay between the ribs, I was enabled to accomplish the evacuation of the pleural contents with comparative ease. Two chamber utensils were nearly filled with pus and cysts of various sizes; two of the cysts were as large as a cocoa-nut, and required a little care to safely deliver them through the intercostal space between a finger and the stick, the other cysts varied in size from an orange to a pea, and their contents varied in colour from a slight milkiness to a purulent turbidness. A row of drainage-tubes was put in and the wound was dressed with old flannel steeped in iodine lotion. The patient was immediately relieved, and I was unable to see him again from that evening.

Remarks.—The hooklets of the tænia echinococcus were found in the cyst I took with me. The most likely sequence of events in the history of the case was that a simple or suppurating hydatid cyst of the liver burst through the diaphragm into the right pleural cavity, and set up secondary pleurisy with purulent effusion, which eventually perforated the pulmonary tissue into the bronchus and was expectorated. The presence of hydatid cysts in the pleural cavity is very rare, and their detection is nearly always by accident. The obstacle the cysts presented to proper drainage reminds me of another difficulty I once encountered in a case of right empyema that would not properly drain, although a large tube extended into the pleural cavity and could be easily probed. In this case a second opening was made in the axilla, and then it was discovered that the tube was compressed firmly in certain positions of the body between the diaphragm and the chest wall, the liver being abnormally high and the dorsal spine kyphotic. I have lately heard that the man got on very well for nearly a month, when he died rather unexpectedly.

ANTIPYRIN IN PUERPERAL FEVER.

BY WM. MCBEATH, M.A., M.D., D.P.H. CAMB.

AFTER parturition there is no condition more annoying and troublesome to the physician or disastrous to the patient than puerperal fever. Whether it occurs as the result of septicæmia, from direct absorption of putrid matter generated in the patient's own uterus, or from infection, the prognosis is always bad. The remedial measures generally used have been so often unsuccessful and are so unreliable, that any remedy or mode of treatment by which the great mortality from it can be materially lessened should be worthy of consideration and trial. I have never noticed in any publication that antipyrin has been used with success in puerperal fever. In the few cases (four) in which during the past eighteen months I have prescribed it, it has acted almost as a specific. It will be sufficient at present to give details of the last case. The other three cases were almost alike, being characterised by the usual symptoms, were treated in the same way, and all got better.

A. B——, primipara, twenty-two years of age, was attended by a midwife, and delivered of a male child on July 2nd, 1890. On the 7th the husband called in Mr. F. F. Jones, of this town, who found her suffering from puerperal fever. He treated her in the usual way, with large doses of quinine, opium, hot linseed poultices, and irrigation of the uterus with a solution of Condy's fluid. On the 10th, as she was thought to be dying, I was called in to see her in consultation with him, and found her in this condition: Pulse 140; temperature 103·5°; abdomen swollen, tender, and of the peculiar peaked shape, which we never see except in puerperal peritonitis; discharge scanty and fetid; milk almost gone; countenance anæmic, and breath sweetish. She was also totally unable to move in bed. I advised that the irrigation of the uterus and the hot poultices should be continued; and in addition, that antipyrin should be given in

ten-grain doses every hour for six hours. In five hours the temperature had fallen below 100°. During the next twenty-four hours the antipyrin was given in the same dose every three hours, and after that she took another half-dozen powders, one every four hours. Thus in two days and a quarter she had taken eighteen powders of ten grains each, the temperature being kept down the whole time. At the end of this period her other symptoms had very much improved, the pain and tenderness had nearly gone, the swollen condition of the abdomen had disappeared, the appetite had returned, and she could move freely in bed. On the fourth day after I saw her she had a sharp attack of diarrhœa, which sent up the temperature to 106°, but a mixture of soda, bismuth, and opium soon relieved her and stopped it. She afterwards made a good recovery, no further bad symptoms supervening.

The symptoms in the other three cases, as I have stated, were almost identical, except that none had diarrhœa after the antipyrin. The treatment also was the same, and the results. In all there was immediate lowering of the temperature, followed by gradual amelioration of all the bad symptoms. It will be noted that the irrigation of the uterus and the hot linseed poultices were continued during the administration of the antipyrin, and, indeed, for a day or two afterwards; but it must be remembered that these had been used for several days before the drug was given, and that the patient was going from bad to worse. As auxiliaries no one would be justified, I think, in omitting them, but I have never found irrigation of the uterus with an antiseptic solution and poulticing alone cure puerperal fever. I feel satisfied that in antipyrin we have a remedy which, if given boldly and judiciously at the outset, will enable us to treat these cases with more hope of success. I do not wish it to be thought that I consider it a specific for puerperal fever, but I have had such good results myself that I am anxious for others to try it. No doubt in certain cases a larger dose may be given at the beginning of the treatment, but in the case detailed above ten grains answered every useful purpose. I generally order each powder to be dissolved in two teaspoonfuls of brandy, and then a little cold water added, so as to make a draught of about an ounce and a half. To my mind, antipyrin acts as an antiseptic as well as an antipyretic, and it may possibly be of use in other cases of septicæmia or blood poisoning besides those arising after childbirth.

Swindon.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

OPERATIONS IN INFANCY AND OLD AGE.

(Under the care of Mr. J. BLAND SUTTON.)

WITH regard to the extremes of life at which operations may be successfully performed, and of which these cases (for an account of which we are indebted to Mr. Leopold Hudson, surgical registrar) are examples, there are numerous recorded instances where recovery has followed operations of considerable severity, but success is not the rule; much depends on the individual. Amongst the more recently recorded successes may be mentioned one by Mr. Maddin,[1] who amputated the thigh of a child, aged three days, for gangrene of the limb. When considering the recovery of aged people from the illnesses and accidents of their earlier life, Professor Humphry[2] writes: "Doubtless the qualities which lead to old age are those which best promote complete recovery from illness, as well as complete nutritive reparation under other circumstances." Dr. Wharton[3] has recently recorded the successful amputation of the leg in a patient of more than eighty years old, and amputation of the arm in one of eighty-four. Montennis[4] has published a case of amputation of the thigh in a man of seventy-five. Murdock,[5] an excision of the elbow-joint at the age of seventy-six for disease following punctured wound of the joint. We have seen the forearm successfully amputated for disease of the wrist at the age of ninety-two.

CASE 1. *Strangulated hernia in a boy twenty-eight days old.* (From notes by Mr. Montagu Tench, house surgeon.)—Cecil M—— was admitted on March 29th, 1889, with a hard tense swelling in the right inguinal region and extending into the scrotum. This swelling was dull on percussion, very tender, gave no impulse when the child cried, and was not translucent. It had been noticed by the mother seven days previously, and had been gradually increasing in size. Three days before admission the child began to vomit, and when admitted the vomited matter was distinctly feculent. Chloroform was administered and an attempt made to reduce the hernia by gentle taxis; this failed. The swelling was then explored, and found to consist of a knuckle of small gut, very tightly nipped at the internal abdominal ring. This was, after a little trouble, returned, the sac dissected out, and the pillars of the ring drawn together by two gut sutures. Next morning the vomiting had ceased, and in four days the wound had so far healed that the mother and infant were sent home. The child was seen some months later, and as there was a slight bulging in the line of the scar it was thought desirable to recommend a truss.

CASE 2. *Imperforate anus; operation; success.* (From notes by Mr. E. E. Lewis, house surgeon.)—Herbert S——, a few days old, was admitted with imperforate anus. The defect was noted at the time of birth by the medical attendant, who found the anus merely represented by a cutaneous dimple. On pressing deeply into the perineum a bulging could be felt; to relieve this, the doctor plunged in a trocar and cannula, allowing a small quantity of meconium to escape. Such a small opening was of little use, and the child was sent to Mr. Bland Sutton for more appropriate treatment. Chloroform was administered, and the track of the trocar carefully followed until the bowel was reached. This was drawn down, freely opened, and stitched to the skin margins of the wound. The child made a good recovery, and the mother was taught to keep the orifice patent by daily inserting her index finger anointed with vaseline. Six months after the operation the anus had contracted so as to give rise to constipation. This was remedied by forcibly dilating the parts under an anæsthetic and carefully impressing upon the mother the necessity of keeping the parts from contracting. The child was again seen a year and eight months after operation; it was plump, well grown, in good health, and the anus causing no trouble.

CASE 3. *Rectal cancer; colotomy.* (From notes by Mr. J. F. Molson, house surgeon.)—Robert B——, aged eighty-one, was admitted on account of frequent painful defecation and discharges of blood from the anus. On examining the bowel with the finger it was possible, after drawing down the folds of mucous membrane, to distinguish a hard, rounded, and ulcerated body projecting into the gut. Left lumbar colotomy was performed on Sept. 25th, 1889. The patient rapidly recovered, and was able to enjoy a walk and smoke in the garden twelve days after the operation. He was then transferred to the male cancer ward, where he was able to get about comfortably, and without pain for nearly five months. After this he became gradually weaker and bedridden, and died on March 13th, 1890, from pneumonia. At the post-mortem examination a cancerous stricture involving three inches of the rectum was found. The lower edge of the growth was within four inches of the anus.

CASE 4. *Fungating sebaceous cyst of the scalp.* (From notes by Mr. J. E. Molson, house surgeon.)—Catherine G——, aged eighty-four years, was admitted on account of a large, ulcerating, foul mass, which occupied the left side of the head near the junction of the occipital and parietal bones. The tumour was as large as an orange, and was regarded by the admitting officer as epithelioma, especially as there was a large gland in the neck on the same size as the tumour. Mr. Bland Sutton, on examining the patient, came to the conclusion that it was a fungating

[1] Medical Record, April, 1889.
[2] Report on Aged Persons: British Medical Journal, 1888, vol. i., p. 511. Ibid., July 30th, 1889.
[3] Sajous, vol. iii., 1889.
[4] Journal des Sciences Médicales, August, 1889.
[5] Journal of the American Medical Association.

sebaceous cyst, and a few days later freely removed it with the scalpel. It was firmly adherent in one part to the pericranium, and the bone was exposed for a space equal in size to a florin. The patient was much relieved by the operation, and notwithstanding her great age exhibited no evidence of shock. The wound quickly granulated, and in five weeks she left the hospital with the wound firmly cicatrised, excepting a patch the size of a threepenny piece. The enlarged gland in the neck was not interfered with at the operation, and as the wound healed this gland gradually dwindled to its natural size.

Remarks by Mr. LEOPOLD HUDSON.—The cases that are brought together form an interesting group, and illustrate the success that may be hoped to attend the application of surgical measures to patients in the extremes of life. The truth of the fact that infants recover speedily and well from operations has never been seriously contested, but surgeons have often asserted their belief that senility implies of necessity a great impairment of the reparative powers. Professor Humphry has conclusively shown that this failure of vitality has been much exaggerated, and Mr. Bryant's success in the treatment of intra-capsular fracture of the femur is in itself a practical demonstration of what can be accomplished in the way of repair by the tissues of old people. Nevertheless, though the tissues of the very old and the very young appear to preserve power of self-restoration to a degree nearly equal with those of the adult, the actual process of repair in point of time varies considerably. A question that has often been raised and never yet satisfactorily answered by an appeal to recorded cases is the remote effect of shock after operations. It would seem that in the infant, the physiological mechanism of which is so delicately balanced that the application of only a slight stimulus will produce an oscillation considerably beyond and within the mean, the effect of shock should be well marked. And if this be so, the remote results of the shock should be correspondingly pronounced, and should at least be sufficiently apparent to arrest the attention of an acute observer. Yet surgeons of great experience[6] will only commit themselves on this point to the generalisation that people who have undergone any of the greater operations and who have recovered from the immediate effects probably do not live as long as those who have not sustained a mutilation. It seems that the truth lies in the fact that as the introduction of anæsthesia has abolished absolutely the immediate dangers of the shock produced by an operation, and lessened the shock existing previously, so it has so minimised the remote dangers that they may be disregarded. It would be a matter of much interest to follow up cases of strangulated hernia and other operations attended with shock in infants in which complete recovery had followed to ascertain whether their length of life was above or below the average, and whether they showed any impairment of vital power that could be reasonably regarded as the remote effect of shock.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

DISLOCATION FORWARDS OF THE FOURTH CERVICAL VERTEBRA; DEATH SIXTEEN HOURS LATER FROM ASPHYXIA.

ALTHOUGH fatal injuries to the cervical spine are only too commonly seen in the practice of our large hospitals, they are usually the result of a fracture dislocation of the bones, and not of a simple dislocation. So rare is the condition of simple dislocation of any of the vertebræ that Abernethy denied the possibility of its occurrence without some fracture in any of the regions of the spine—cervical, dorsal, or lumbar. Malgaigne collected a series of forty-five cases of dislocation of the cervical vertebræ, ten of which were examples of displacement of the fourth vertebra. With regard to these injuries, Hamilton[1] writes: "There is usually present, however, in the dislocation, whether partial or complete, a peculiar fixedness or rigidity of the spine, which serves to distinguish this accident from a fracture of the spine as plainly as the preternatural rigidity of the limb in dislocations of the long bones serves to distinguish these accidents from fractures of the same bones, and in the neck the transverse process becomes an important guide in the diagnosis." This rigidity does not seem to have been evident in this case, but other symptoms, especially those of injury to the cervical part of the cord, were very pronounced, including the peculiar rocket-like temperature. For the following report we are indebted to Mr. W. Gifford Nash, house surgeon.

E. D——, aged seventeen, was admitted on Oct. 5th, 1890, at 6 P.M. He stated that in the afternoon about 4 o'clock he was playing in a football match. At half time he ran after the ball, and a friend, a spectator, ran after him and caught him round the waist from behind. He bent forwards to throw his friend over his head, and fell forwards on to his head, which was bent underneath him. The other man fell on the top of him. He felt something give way in his neck, and at once lost all power and sensation in his arms and legs. He was removed to an adjoining farm-house, and afterwards taken home in a cab, and seen by a medical man, who ordered his removal to hospital, where he was brought in a cab. On admission, the patient was a strongly-built muscular lad, with a very thick neck. He was quite conscious, and complained of complete loss of power and sensation in his arms, legs, and trunk. Respiration was entirely abdominal, 48 to the minute; pulse 66, weak and soft. There was a tender spot at the back of the cervical spine about the level of the fifth cervical vertebra, and some thickening was felt. The spinous processes could not be distinguished. There was no hyperæsthetic line. The pupils were equal and slightly dilated. The temperature at 8 P.M. was 96° and at 9 P.M. 97°. At midnight his face looked swollen and flushed, the skin being shiny and burning. Respiration continued entirely diaphragmatic, expiration being very short and sudden, just like a hiccough. A catheter was passed and about 8 oz. of urine drawn off. There was no priapism. His temperature gradually rose until death. At 1 A.M. it was 101·4°, at 5 105·6°, at 6 107·2°, at 6.45 107·8°, at 7.15 108·4°, and at 7.45 108·6°. At 6.45 his pulse was 160, respiration 36, and he was very cyanosed. At 7.45 he vomited a large quantity of blood and died of asphyxia. The necropsy was performed on Oct. 6th, thirty-two hours after death. The body was much distended by gas, due to post-mortem decomposition, which was rapidly advancing. There was marked hypostatic lividity. All the superficial veins showed up clearly as brown stains. A large quantity of blood flowed from the mouth on turning the body over. The muscles at the back of the neck were dissected out, and the back of the spine exposed. The neck was very muscular, and swollen by extravasated blood. The fourth cervical vertebra was dislocated forwards half an inch on the fifth cervical vertebra, carrying with it the head and vertebræ above it. The inferior articular processes of the fourth cervical vertebra had slipped forwards in front of the superior articular processes of the fifth cervical vertebra. There was no sign of a fracture. The œsophagus was exposed from behind, and was uninjured.

[6] *Vide* Erichsen: Science and Art of Surgery, vol. i., p. 51.
[1] Fractures and Dislocations, p. 648.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Aneurysm of Aortic Arch, for which the Left Common Carotid was tied.—Tubercular Meningitis.—Cerebral Tumour.—Negro Lethargy.

AN ordinary meeting of the Society was held on Nov. 14th, the President, Mr. C. Heath, in the chair.

Dr. ELWIN HARRIS read the notes of a case of Aneurysm of the Arch of the Aorta for which the Left Common Carotid was tied. The patient, a carpenter aged thirty-eight, was admitted into the Infirmary, St. George's-in-the-East, on Jan. 23rd, 1890, complaining of a painful swelling on the left side of the neck and upper part of the chest, of six weeks' duration. He was found to be suffering from an aneurysm of the arch of the aorta, which caused the left side of the manubrium sterni and adjoining costal cartilages and inner end of the clavicle to bulge forwards; it also projected upwards through the root of the neck to just above the left clavicle. Pulsation was visible, and was expansile in character. The pulses were unequal; the left was much the smaller. The pupils were equal. He was ordered rest and low diet, 9 oz. of solid, and 17 oz. of fluid in the twenty-four

hours. This treatment was continued for six weeks, but the aneurysm increased in size, and there was also much cough, profuse expectoration, and some dysphagia. On March 13th, Mr. Christopher Heath ligatured the left common carotid; cocaine being used as the anæsthetic. The wound healed on the fifteenth day after the operation, and up to this date the aneurysm apparently decreased in size, but after that its dimensions appeared to extend in every direction; the patient's symptoms also became more distressing, and marked symptoms being excessive irritability and restlessness, and rapid emaciation. He eventually died quite suddenly on May 12th, about two months after the operation. Post mortem the aneurysm was found to spring from the upper and anterior part of the transverse portion of the arch of the aorta, with which it communicated by a rounded opening, measuring 1½ in. in its transverse diameter. The sac was entirely filled with clots, of which the outer layer, from three-quarters to one inch in thickness, was composed of decolourised laminated fibrin, whilst the central portion was made up of ordinary red coagulum. Clots extended from the orifice of the aneurysm in a radiate fashion upwards and downwards into the aorta, and the innominate and left subclavian arteries, in which they tailed off in a thread-like manner. The ligature had been applied to the left carotid three-quarters of an inch below the bifurcation; above it the artery was completely filled by an organised but still coloured clot; below a completely decolourised clot extended along the posterior wall of the vessel, to which it was firmly adherent; the clot ceased an inch and a quarter above the commencement of the artery, with the exception of an exceedingly fine filament, which was continuous with the clot in the aneurysm; it did not nearly occlude the vessel. The internal jugular was completely obliterated by pressure. The aneurysm, having a small orifice and large sac, was one which would favour coagulation; and considering the progressive enlargement was checked for a time by the operation, it is reasonable to be supposed that, had the operation been performed earlier, some permanent benefit might have been derived.—The PRESIDENT said he had operated on the case. He thought that all who saw the specimen would agree that the aneurysm was practically cured at the time of death; the patient had really been destroyed by the pressure effects of the consolidated tumour. The patient did not seem to be a favourable one for an anæsthetic, and so the operation was done under cocaine. He had once before been on the point of tying the carotid in such a case when the patient died on the table before the operation had commenced. In tying the vessel he inadvertently ran his aneurysm needle through it, and then was obliged to tie above and below the puncture. There was no secondary cerebral trouble. He was unable to explain how it was that ligature of the left carotid relieved aortic aneurysm, but it was certain that benefit followed in many cases. He was the first to adopt this procedure; the patient was a "ditcher and fencer," and he had an aneurysm of the ascending arch. He lived for four years afterwards in comparative comfort, and then died from extension and bursting of the aneurysm, probably because he resumed his heavy work. He disagreed with Mr. Holmes, who contended that the clot extended downwards into the sac from the ligatured vessel; he believed that cure resulted not from continuity of clot, but from an alteration of the blood-current through the aneurysm.—Mr. EVE said that some who had seen the specimen questioned whether the clot within the sac was ante mortem. He felt no doubt that it was, for the greater part of the coagulum showed evidence of having been formed some time, and it was at parts adherent to the wall, and showed in the centre an absence of red blood-corpuscles. A very slender filament connected the clot in the ligatured artery with the main mass in the aneurysm.—Mr. HOWARD MARSH wished to mention that in one case in which he tied the right common carotid and subclavian arteries for aneurysm of the arch of the aorta, it appeared that the operation made the patient worse instead of better, for the sac rapidly enlarged. He was therefore disinclined to repeat the procedure. He was at a loss to explain both the harm done in his own case and the good done in that recorded by the author.—Mr. GROS said that in one case he was about to tie the common carotid when the patient perished under chloroform. In a future case he felt sure it would be wiser to operate without an anæsthetic. He mentioned another case in which he was dissuaded from operating, though he was convinced that benefit would have resulted therefrom.

Dr. CHARLTON BASTIAN then gave some details of a case of Tubercular Meningitis in a man past middle age, in whom no old tubercular focus was discovered. This case was interesting because of the development in a strongly built man of fifty-two of an acute tuberculosis with tubercular meningitis, when after the most careful search no old tubercular focus could be discovered. There was an enormous development of grey granulations throughout both lungs, although there were no definite signs pointing to lung disease till a few days before the patient's death. Clinically, the general disease showed itself in the main by the presence of head symptoms, and these were characterised also by a very rapid development. The case was at first very obscure from the point of view of etiology and diagnosis. He complained of pains in the head, and showed signs of mental confusion. Although there was deafness on one side, there was no evidence of suppurative otitis; and there was no history of a recent blow or fall upon the head. There was no history of syphilis, and no heart disease that could have caused multiple embolism of the cerebral meninges. Although, therefore, the diagnosis of meningitis was soon arrived at, its cause remained obscure, there being no signs whatever of a phthisical malady, no evidence of the existence of tubercle in any part of the body. At the necropsy the amount of inflammation of the meninges was found to be comparatively small, and to be most marked on the left side along the course of the middle cerebral artery. Owing, doubtless, to the man's age, distinct wasting of the brain had already set in, so that in the place of dry membrane and compressed convolutions over the vertex there was rather a distinct excess of subarachnoid fluid and an absence of all signs of pressure. To this latter fact, together with the slightness of the basal inflammation, might probably be attributed the observed absence of optic neuritis during life.

Dr. BASTIAN also contributed a case of Tumour Cerebri, with incipient tubercular meningitis. In this, as in the last case, the revelation of the existence of a tubercular meningitis was something of a surprise. Nothing could be discovered during life that gave any clue as to the nature of the tumour of the brain from which the man was suffering. There was no history of past lung disease, and there was an entire absence of any symptoms of present disease of these organs, two or three small cheesy nodules subsequently found in the apices of the lungs not revealing themselves by any distinct physical signs. At first some of the patient's symptoms seemed evidently referable to a tumour in the left cerebral hemisphere, but it was thought not improbable that there might be more than one lesion, and the possibility of syphilis rather than tubercle was suspected. Owing to the existence of old valvular disease, there was, however, also the possibility that the symptoms due to tumour might have been complicated by the occurrence of one or more small embolisms. When the patient first came under observation there was a partial right hemiplegia, together with a slight aphemic and amnesic defect of speech, as well as pains in the head and intense optic neuritis. About five weeks afterwards, on two occasions, he had peculiar attacks with twitchings and tonic spasms in different parts of both sides of the body. After these attacks the right hemiplegia became more marked, and great mental obtuseness also existed, even the simplest remarks made to him did not seem to be understood. Pain in the head seemed also to have become more marked. After the last of the attacks above referred to the respiration during a few days became more and more interfered with; on the third day it became of the Cheyne-Stokes type, and on the following day the patient died. At the necropsy a tubercular growth, about the size of a small orange, was found in the anterior part of the left centrum ovale, together with an incipient tubercular meningitis occupying the base of the brain, and here again extending upwards along the left middle cerebral artery. It seemed obvious that the meningitis was quite a late complication. There was no trace of recent tubercle found in the lungs or other parts of the body, though two or three small obsolescent and cheesy nodules were found in different parts of the apex of each lung.

Dr. STEPHEN MACKENZIE brought forward a case of Negro Lethargy or Sleeping Sickness, and he exhibited the patient, a negro aged twenty-two, who was born and had lived all his life on the Congo. The village from which he came, situated in a valley about 1300 feet above the sea, had been decimated by "sleeping sickness." His mother, two sisters, and almost all his near relatives on

both sides of the family had been carried off by this fatal malady. The patient was a married man with two children. With the exception of two attacks of malarial fever he had always enjoyed good health until the present illness, and appeared to have been unusually intelligent and trustworthy. The disease began at the commencement of the present year, being preceded by an attack of diarrhœa, apparently not dysenteric, which lasted a month. He came to England in June for the express purpose of seeing if anything could be done to cure his disease. Mr. Grattan Guinness placed him under the author's care. When he came to England in June his mental condition was good; he was usually vivacious, but inclined to be drowsy at times in the day, and had a slight drooping of the eyelids, which gave him a peculiarly heavy expression of face, said to be characteristic by those familiar with the disease. He had an eczematous condition of the legs, the functions of digestion and assimilation were well performed, and there was no evidence of any visceral disease. He was set to do light work, such as chopping wood, but his muscular power became increasingly impaired, walking with a tremulous and tottering gait, he had great tremor of the tongue and upper extremities, and an increasing mental hebetude and lethargy. He had some kind of attack, in which he was found unconscious with high temperature and profuse perspiration in the evening of Oct. 5th, and was brought to the hospital on the following day. He was then fairly nourished, free from visceral disease, and had a temperature of 103°. He was exceedingly tremulous, his gait very feeble. He slept a good deal in the daytime. He was not anæmic. His urine was scanty and, in consequence, of high density. It contained a trace of albumen on the first two occasions, but never since. Mr. A. St. L. Fagan, house physician, thought he might have filariæ in his blood, and such proved to be the case. Since admission he had lost flesh and strength. Irregular pyrexia had nearly always been present. His appetite on the whole had been good, except when specially feverish. His mental condition had been one of torpor or lethargy. When roused he appeared intelligent, but was very quiet, only giving monosyllabic answers to questions, and rarely venturing a remark. He had many little sleeps in the daytime, but rarely slept for long together either by night or day, so that the total amount of sleep did not exceed the amount usually taken by healthy people. He had had one rigor, followed by increased tremor, occasional incontinence of urine, and a bedsore had formed over the sacrum. His urine had always been of high specific gravity and deep colour. Filariæ were always present in his blood, by day as well as by night, but the normal periodicity of filarial migration was probably interrupted by the pyrexia present. The maximum observed in 20 c.m. was 78, from which it might be calculated that at that time, assuming the blood generally to contain the same proportion as that in the finger ends, the total number present was 118,965,600. The author next proceeded to state what was known about this disease, giving the information contained in Hirsch's "Handbook of Geographical and Historical Pathology," and such additional information as he had been able to collect through the help of Mr. Guinness, especially from the missionaries, Mr. Richards and Mr. Hughes. According to Hirsch, the disease was of limited geographical range, including a large part of the west coast of Africa between the Senegal and the region of the Congo. It was confined to pure-blooded negroes, occurred equally in the two sexes, spared no period of life, but was especially common between twelve and eighteen. The course varied, but its termination was almost always fatal. No distinctive morbid appearance had been found after death. Various theories had been put forward, but none appeared satisfactory. The soil and climate, habits of the people, depressing emotions connected with the slave trade, glandular swellings in the neck compressing the vessels going to the brain, had been blamed, but none of these were tenable. In the present case the discovery of filariæ in the blood opened up a new point which required further investigation. The author believed that the association was accidental, for the following reasons. When filarial infection gave rise to pathological consequences, it did so by causing mechanical obstruction of lymphatics, and produced local diseases—e.g., chyluria, elephantiasis, lymph-scrotum; that in regions where filarial infection was endemic it was common in persons otherwise perfectly healthy; and in another supposed case filariæ were not present. Malaria appeared to be excluded in the present case by the absence of enlargement of the spleen, retinal hæmorrhages, melanæmia, and the plasmodium malariæ. The exact nature of the disease was not determined by the study of the present case, and probably could not be settled by a single case. The symptoms indicated some affection of the highest nervous centres without definitely pointing to its precise nature.—Dr. MANSON regarded the complaint as essentially of central nervous origin; he considered that the filariæ had nothing to do with it. He had seen a good deal of beri-beri, but that affection, which was multiple peripheral neuritis, had nothing in common with the one under discussion. He wondered if it were due to poisoning by some form of food in use among the negro population.

MEDICAL SOCIETY OF LONDON.

The Relation of Asthma to other Diseases.

AN ordinary meeting of this Society was held on Nov. 10th, the President, Mr. K. Thornton, in the chair.

Dr. S. WEST read a paper on the Relation of Asthma to other Diseases, of which the following is a brief abstract. The author intended his communication rather as a review of the subject, to serve as an introduction to discussion, than as a statement of his own views. He used the term "asthma" in the strictest sense of the word, and he gave a full definition of it, which was practically a short description of the disease. He then discussed its relation to various other lesions. He held that asthma stood in no relation to affections of the lungs, other than to emphysema and chronic bronchitis. He pointed out that it usually disappeared in patients who became affected with phthisis, and related two cases in illustration of this. With regard to affections of the heart, dyspnœa was often seen in connexion with them, and paroxysms were not rare, but these cases of paroxysmal hurry differed entirely from true asthmatic paroxysms. True cardiac asthma was extremely rare and was most difficult to treat; it had no connexion with angina pectoris. Referring to the relation of asthma to diseases of the stomach, he held that the cause of the asthma was not due to irritation of the gastric mucous membrane itself, but to the absorption and circulation in the blood of some product of an irritant nature. Cases of so-called "asthma verminosum" probably were similarly explicable. Dyspnœa was common in affections of the kidney, but true asthma was very rare. In uræmic conditions, respiratory disturbances were common, but they more nearly resembled those seen in diabetic dyspnœa. Illustrations of the occurrence of asthma in association with gout and lead poisoning were then given. The connexion of asthma with certain affections of the nose was first established in 1872, and it seemed to be proved that reflex neuroses sometimes arose in connexion with such lesions as polypus, chronic rhinitis, paroxysmal sneezing, &c. The subject had been approached in two ways: a series of cases of asthma having been taken and the occurrence of nasal affection noted, and then a series of nasal affections in which asthma had been present. The result of analysis of these groups showed that there was some slight connexion between the two, but that it was by no means constant. In some cases, however, the connexion seemed exceptionally strong, instances being quoted where the growth of nasal polypi was associated with the onset of asthma, which latter disappeared upon the removal of the growths. He regarded hay asthma as a variety of the true affection, and he pointed out that the association of asthma with pharyngeal disease was very rare. Many affections of the neck and mediastinum were met with in which asthma occurred, but it was impossible to dissociate here the effects of pressure. A great deal had been written as to the association of asthma with diseases of the skin, but it appeared on the whole that this was only accidental, or both, perhaps, were the joint effects of a common cause. Urticaria was most frequent, then eczema, herpes, some of the exanthemata, psoriasis, syphilis, drug eruptions, acne, &c. He thought that a sufficient number of cases of asthma in association with cerebral affections had been recorded to make it more than a coincidence. It had been observed, though rarely, to alternate with insanity and with hysteria. The exciting causes were very many; for, like epilepsy, it appeared to depend on an unstable condition of the nerves centres, and explosion could therefore be excited reflexly by a number of causes. He adopted the hypothesis that there was an asthma centre in the

medulla, which could be acted on from above by emotion, various psychoses, epilepsy, and some cerebral lesions; in the centre itself by uræmia and dyspepsia; from below, by disturbance of the special senses, such as of the olfactory and optic nerves, by stimulation of the nerves of common sensation, as of the fifth in the face, and by cutaneous irritant rashes. It could be acted on also by the branches of the pneumogastric distributed to the neck, thorax, heart, lungs, and stomach, and by the sympathetic through its branches from the intestines, kidney, and uterus. It affected many sets of muscles other than those proper to the bronchi, and therefore could only be of central origin. In conclusion, he regarded asthma as a reflex neurosis, producing spasm of the bronchi and of the diaphragm, associated with bronchial vaso-motor disturbance, and an unstable condition of the respiratory centre. It so closely resembled epilepsy that Hughlings Jackson had defined it as a "respiratory convulsion."

Dr. THOROWGOOD agreed with much that had been said; he pointed out, however, that the diaphragm was not always depressed, but was frequently sucked up into the thorax. He quoted a case in which he believed that the irritation of the gastric mucous membrane was the primary source of the reflex disturbance, and great benefit followed the exhibition of small doses of nitrate of silver. He thought a great stride had been made when the importance of nasal reflex lesions came to be recognised. He related a case in which citrate of caffeine had a marvellous effect in reducing the spasm, and he also referred to two cases in which a paroxysmal cough subsided on the appearance of an urticarial rash.

Dr. DE HAVILLAND HALL, speaking of the relation of asthma to affections of the stomach, thought that both views of its method of action might be accepted. He described an instance in which an emetic acted curatively. The importance of the association of nasal affection had been overrated, and he related a case of asthma associated with hypertrophic rhinitis in which bromide and caffeine cured the former affection, whilst the latter remained *in statu quo*. He considered that asthma should be regarded as a symptom rather than as a disease.

Dr. SÉMON said that the more he studied the relation of nasal affections to asthma the more obscure it appeared to him. If an asthmatic patient presented himself who had nasal trouble, but no other discoverable local lesion, it was impossible to assure him that the curing of the nasal disease would relieve the asthma, or still more, cause it to disappear. He advised patients as a rule to leave the nose alone, because in the majority of cases treatment would not be successful, but as some instances were relieved by treatment, it was legitimate to try it as an experiment. He related an interesting case of a woman in whom perverted action of the vocal cords alternated with asthma.

Dr. THEODORE WILLIAMS did not find that the asthma produced by blood diseases—such as gouty and syphilitic cases—could be explained on Dr. West's hypothesis. In cases where affections of the lungs preceded asthma, some structural changes were left behind by these diseases, which served as the exciting causes of the spasm. Sir Andrew Clark had described asthma as a sort of urticaria of the bronchial mucous membrane, but in one well-marked case in which asthma and urticaria alternated he could find no trace of urticarial affection of the larynx.

Dr. WEST, in reply, repeated his belief that the nasal origin of asthma had been much exaggerated. Commenting on Dr. Williams's observations, he said that he would expect to find the urticaria, if any, lower down than the larynx.

OBSTETRICAL SOCIETY OF LONDON.

Four Cases of Pregnancy with Bright's Disease.—Plugging Uterus in Severe Cases of Post-partum Hæmorrhage.

A MEETING of this Society was held on Nov. 5th, Dr. A. L. Galabin in the chair.

Dr. G. HERMAN read a paper on four cases of Pregnancy with Bright's Disease. He pointed out that to understand the relation between renal disease in pregnant women and eclampsia of pregnancy, it was necessary to compare cases of renal disease with eclampsia with cases of renal disease without eclampsia. Four cases of the latter kind were detailed, of which the chief features were as follows:—Case 1 (second pregnancy): Morning sickness ceasing about middle of third month; vomiting returning in seventh month, together with œdema, giddiness, amblyopia, and disturbed sleep; slight anæmia; no marked cardiac hypertrophy; urine solid with albumen; quantity of urine increased; excretion of urea slightly below the average; induction of labour near end of seventh month; child living; rapid diminution of albuminuria, and increase of urea-excretion following delivery; recovery; subsequent pregnancy without similar renal changes. Case 2 (sixth pregnancy): Twins; hydramnios; œdema in last four months of pregnancy; no other symptoms; urine solid with albumen, about half paraglobulin; slightly diminished quantity of urine and urea; labour accelerated by separation of membranes around os uteri; children living; delivery immediately followed by great diminution in albuminuria, great diuresis, and augmented urea-elimination; temporary return of albuminuria during latter part of lying-in period; apparently complete recovery. Case 3 (sixteenth pregnancy): Fits after confinement six years previously; symptoms coming on at beginning of eighth month of present pregnancy; intra-uterine death of fœtus; premature labour induced at end of eighth month, after one week's treatment by rest and milk diet; no diminution in quantity of urine, but diminished urea-elimination; albuminuria; diminution of albuminuria and partial restoration of urea-excretion before delivery, continuing after delivery; recovery, but persistence of renal disease. Case 4: Albuminuria; uræmic twitchings; cerebral hæmorrhage; induction of labour at beginning of eighth month; child living; diminished percentage of urea before delivery; after delivery rapid increase in percentage of urea, and temporary diminution of albuminuria; renewed cerebral hæmorrhage; coma; death; no necropsy. The author commented on the diminished albuminuria and increased urea-excretion which followed delivery in all, these effects of delivery being greatest in Case 2, in which the abdominal distension was greatest, and least in Case 3, in which the abdominal enlargement was least. Case 3 was contrasted with others as to the amount of albumen and the duration and persistence of the disease.—Dr. LEITH NAPIER said that during gestation there was a specially unstable condition of the epithelial tissue in all the large glands, and, as might be expected, the kidneys frequently suffered. Twenty-five years ago Seyfert of Prague showed that of seventy patients suffering from kidney disease during gestation only two developed eclampsia. A more recent series of 152 cases, in which necropsies were made on puerperal and pregnant women who were found to have Bright's disease, showed that only 6·6 per cent. had eclampsia symptoms. Bamberger in this series included chronic and atrophic renal disease. Braun estimated that 60 per cent. of women suffering from acute and chronic Bright's disease developed convulsions. He (Dr. Napier) alluded to a case of scarlatinal nephritis in which pregnancy went on normally. He asked what was the normal amount of urea excreted during pregnancy. He believed it was less than usual, and that it was increased after parturition. He believed that all cases of albuminuria, whatever the cause, were relieved after parturition. The existence of acetonuria in relation to eclampsia was important.—Dr. ROUTH took exception to these cases being called Bright's disease, because they were cases of albuminuria. He did not think that the term "Bright's disease" should be used unless there were casts in the urine, and unless, by the use of the ophthalmoscope, evidences of neuritis and local congestion were found.—Dr. HAYES thought premature labour should be brought on.—Dr. HORROCKS asked whether Dr. Herman had found sufficient differences in the quantities of urea and albumen between the present series of cases and his former series with eclampsia to point to a causal relationship. He thought that the nervous system played an important *rôle* in puerperal eclampsia, and pointed out that in only one of the four cases was the patient single, and she was a secundipara.—Mr. ALBAN DORAN observed that there appeared to be three diseases clinically distinct: (1) Albuminuria, associated with ovarian and other abdominal tumours; (2) the albuminuria of pregnancy; (3) true Bright's disease, complicating abdominal tumour, or pregnancy. In the first, the albuminuria always disappeared after successful removal of the tumour, and hits never occurred. The second class of cases was often associated with eclampsia. In the third form the patient was all the

better for removal of the tumour or for delivery.—Dr. GRIFFITH also made remarks.—Dr. HERMAN, in reply, said he had used the term "Bright's disease" in its comprehensive sense. Many looked upon puerperal eclampsia as nothing else than uræmic convulsions, occurring as the result of kidney disease in pregnancy and childbed. There was very little evidence either for or against this view, which was mainly based on inferences drawn from our knowledge of renal disease apart from pregnancy. He did not think that in these four cases the albuminuria was a simple result of pressure. He had made no investigations into acetonuria in pregnancy. In vol. xxix. of the "Obstetrical Society's Transactions" he had published all the observations that he could find recorded on the normal urea excretion during pregnancy and the lying-in period, and the results were so contradictory that it could not be said that we had any definite knowledge about it.

Dr. LEWERS then contributed a paper on Plugging the Uterus in Severe Cases of Post-partum Hæmorrhage, with notes of a successful case. He referred to Dr. Auvard's monograph on "Tamponnement Intra-uterine," and reviewed the history of this treatment. Out of seventeen cases three died—from eclampsia, tuberculosis, and septicæmia respectively. *Case.*—Mrs. M——, twenty-five years of age, miscarried at the fourth month of gestation. It was supposed that a piece of placenta was left behind, but she was so nervous that a proper examination could not be made. The next day she had a rigor and there was an offensive discharge. Thirty-six hours after the miscarriage an anæsthetic was given and a putrid mass removed from the uterus, to the upper part of which it was attached. The curette was then used, when sudden and alarming hæmorrhage took place. Hot water irrigation was employed, with some iodine in it. This failed, and the uterine cavity was plugged with dry carbolic gauze, carried up to the fundus with the ovum forceps, and packed by the curette. Both uterus and vagina were tightly packed and a T bandage was firmly applied. The bleeding was thus arrested. The gauze was left in for twenty-one hours, and on its removal the uterine cavity was washed out with iodine water, and antiseptic vaginal douches were used for some days longer. The hæmorrhage did not recur, and the patient made a good recovery. In addition to a volsella to hold the uterus during plugging, and the forceps and curette already mentioned, a Smith's modification of Sims' speculum was useful. If about to plug the uterus and vagina in post-partum hæmorrhage at the full term of gestation, an ample supply—say forty-six yards—of dry carbolic gauze should be provided. It was stouter than iodoform gauze, and so less was required. He (Dr. Lewers) thought that plugging the uterus and vagina was an effectual treatment for many cases that would otherwise prove fatal. Dr. PRIESTLEY thought the older obstetricians would look with horror upon the method of treating post-partum hæmorrhage by plugging. He thought there were radical objections to it as a general method of treatment. The case given was not a case in point, as the patient was only four months pregnant, the uterus but little developed, and plugging even of the vagina might have been quite a legitimate method, because there was no large and expansible uterine cavity above it for the accumulation of blood. To plug the uterine cavity at full term would be no easy matter, and would require a large amount of material. Moreover, it thwarted the physiological process of preventing hæmorrhage after delivery—namely, by the muscular fibres of the uterus which constricted the open mouth of the vessels at the placental site. Any tampon, large or small, would prevent this mechanism coming into play, and, even if it stopped hæmorrhage for a time, its removal might be followed by further loss. He hoped the method of treatment would not receive the sanction of the Obstetrical Society.—Dr. PLAYFAIR said he had no practical experience of this method of dealing with post-partum hæmorrhage. It was an old-established axiom in midwifery practice that the plug was never applicable so long as there was any possibility of the uterus dilating behind it. A newly emptied uterus might very well contain a fatal amount of hæmorrhage if only its lower segments were filled with the plug, and much care would be required to prevent the possibility of this occurrence. In Dr. Lewers' case, and also in cases of secondary post-partum hæmorrhages, plugging might be useful. He should consider it no easy matter to pack a large flaccid uterus immediately after delivery. He thought it would be intolerable for accoucheurs to carry forty-six yards of gauze about, the equivalent of two and a half ball dresses. Hæmorrhage due to lacerations of the cervix and vagina, described by Gooch as 'hæmorrhages with a contracted uterus," might be properly treated by plugging.—Dr. CHAMPNEYS referred to Dr. Dührssen's paper in *Volkmann's Sammlung Klinischer Vorträge*. This gave a report of sixty cases so treated, and he thought a careful perusal would show that plugging was better treatment as a last resource than injection of perchloride of iron. If plugged properly, from the fundus downwards, the uterus did not expand above the plug, which, on the contrary, acted as an irritant, and caused good contraction and retraction. The vagina was also tightly plugged. Of sixty-five cases of severe post-partum hæmorrhage thus treated, six died, one only of sepsis. Any clean linen could be sterilised by boiling for five minutes in a saucepan with the lid on, to produce a uniform temperature of 212° F. or 100° C. The quantity of material required is less than would be supposed. Dr. Dührssen stated in 1889 that the injection of perchloride of iron was regarded in England as a practice as important as vaccination. It was at least twenty years out of date, if it ever was true.—Dr. LEITH NAPIER asked as to the *rationale* of plugging the post-partum uterus. The practice was justifiable in the post-abortum uterus, which was a very different matter. He asked if normal retraction occurred with a plug and artificial clot inside the uterus. Except in those rare cases in which there was absolutely no attempt at contraction, described as uterine paralysis at the placental site, he failed to see the necessity for, or advisability of, the procedure. The idea was not new, but had never met with more than very limited adoption.—Dr. GRIFFITH also made remarks.

Dr. LEWERS, who was not present when the paper was read and discussed, wishes to explain that it is only in those desperate cases of post-partum hæmorrhage, for which the intra-uterine injection of perchloride of iron has hitherto been recommended, that he would advise plugging of the uterine cavity. He regards it only as a last resource, when all the usual means fail to stop the bleeding. German and French statistics seem to show that plugging in such cases is much less dangerous than the intra-uterine injection of perchloride of iron, and at least equally efficacious.

The following specimens were shown:—

Mr. BLAND SUTTON: Fleshy Mole in the Fallopian Tube.

Dr. W. DUNCAN: (1) Suppurating Dermoid Cyst; (2) Ovary and Tube with Papilloma.

Dr. A. ROUTH: Acephalous Acardiac Fœtus.

HUNTERIAN SOCIETY.

A MEETING was held on Oct. 22nd, Dr. Stephen Mackenzie, President, in the chair.

Filaria Sanguinis.—The PRESIDENT showed specimens of the Embryo Filaria Sanguinis Hominis from a patient under his care in the London Hospital. The periodicity with which the embryos appear (commencing about 6 P.M.) is disturbed in this patient, who is feverish; he has them swarming in the blood all day. As a rule, they remain living and active on a slide for two or three days or more, but in this case they die in a few hours; since the fever began the parent worms have probably become moribund, and the embryo shows this lessened vitality.

Perityphlitis.—Mr. F. R. HUMPHREYS read notes of six cases of Perityphlitis—three men and three women, ages fourteen to sixty—under his care. In all cases a tumour appeared, and in two it went on to suppuration, and ruptured on the eleventh day—one into the rectum, one into both rectum and vagina. Much nervous prostration and some mental disturbance were encountered. Quinine and opium were given, and enemata appeared to afford much relief; castor-oil and opium were also given in some cases, with heat or cold externally. All recovered, with two relapses. The question of operation was discussed, and the conflicting views of American and English surgeons.—Dr. F. J. SMITH had found from the medical records at the London Hospital that nearly 90 per cent. of cases of perityphlitis recovered without operation.—Mr. POLAND advocated the American term "appendicitis." He would operate early when an abscess is found, and would remove

the appendix, using a vertical incision outside Poupart's ligament without opening the peritoneum.—Mr. G. J. B. STEVENS said that the repeated attacks which occur cause the parts to be matted together, and removal of the appendix is often practically impossible.—Dr. GILBERT and Mr. BOWKETT referred to the large number of slighter cases of typhlitis which are seen in general practice.—Dr. HINGSTON FOX spoke on the causation of perityphlitis, pointing out the large collection of lymphatic tissue at that part of the digestive canal, and compared the disease with other lymphatic inflammations, especially tonsillitis, whence it has been termed "abdominal quinsy."[1] He had seen some cases in young persons suggestive of a chronic state of hypertrophy, like enlarged tonsils.—The PRESIDENT said that the old idea of a plum-stone lodging in the appendix still governed treatment with some; castor-oil was given, and might cause a fatal result. The patient should be kept under opium for a long period, if necessary; if he moved too early there was great danger of relapse. The indications for operation were suppuration or the frequent recurrence of attacks.

Chorea.—Dr. TURNER read a paper on Cerebral Lesions in Chorea, and exhibited sections of the cerebral convolutions in the Rolandic region, showing destruction of the nerve cells, which were swollen and shapeless. In a carefully reasoned paper dealing with the various hypotheses of the cause of this disease, he put forward the view that typical chorea in young persons is due to active functional congestion of the lower cerebral centres, attended by destruction or devitalisation of the cells of higher centres.—The PRESIDENT discussed this theory in some detail.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Detail in Treatment.—At a meeting of the Society on Nov. 5th, Mr. HAYDON WHITE (the President) read a paper on Detail in Treatment. He noted the growing tendency to allow acute disease to run its course, if favourable, without the interference of powerfully perturbing medicines, recognising that such disease, under favourable conditions of rest, diet, temperature, and ventilation, terminates in health. In fevers, such as typhoid and rheumatic fevers, he advised the constant observation of temperature, and withholding debilitating antipyretic drugs as much as possible, and specially alluded to salicylate of soda. He pointed out how all systems of treatment had failed, and that, therapeutics being partly rational and partly purely empirical, it was impossible that such should be formulated. It was difficult always to keep free from the shackles of routine, and urged the necessity of the consideration of all the factors of a given case. He noticed an immense increase of preparations advertised by manufacturing chemists, and the evil of their blind use. He thought many cases of failure arose, when medicine was required, from insufficient dosage, when the average dose given is often the minimum one of the B.P., and instanced belladonna, nux vomica, the iodides and bromides, and iron. Other failures arose from faulty administration—many medicines being taken on a full stomach that should be taken on an empty one; and instanced the increased activity of the iodides and bromides when taken highly diluted and fasting. He pointed out the necessity of correcting dietetic and other errors, and not relying on medicine alone, instancing the treatment of constipation by increasing the bulk of the food, in order to excite the natural peristalsis of the bowels.—Dr. WILLIAM RANSOM urged the necessity of detailed observation, both in diagnosis and in the action of remedies, and alluded to the more accurate knowledge possessed by the surgeon of therapeutic measures employed by him than of those employed by the physician.—Mr. JOSEPH WHITE, on behalf of the Society, expressed its appreciation of the address, which the President acknowledged.

Dr. WILLIAM RANSOM showed a Cyst of the Omentum, removed by Sir Spencer Wells from a girl aged four.

Dr. ELDER showed Ovarian Cystomata, removed from a woman aged twenty-five. Both ovaries were diseased, and on the left side there also existed pyo-salpinx.

[1] THE LANCET, vol. ii. 1885, p. 1166.

Reviews and Notices of Books.

Cyclopædia of the Diseases of Children, Medical and Surgical. Edited by JOHN M. KEATING, M.D. Vol. III. Philadelphia: J. B. Lippincott Co. London and Edinburgh: Young J. Pentland. 1890.

THE magnitude of this undertaking is exemplified in the wide range of subjects included in the last-issued volume, for it comprises, in addition to articles on the disorders of the digestive and the genito-urinary organs and on the blood, several surgical articles dealing with such subjects as hernia, wounds, deformities, fractures, and dislocations. Nor can its contents be said to be strictly confined to pædiatrics, since two of the most elaborate memoirs—namely, that on the Diseases of the Pancreas, by Dr. Senn, who writes chiefly with the view of drawing attention to their surgical aspect, and the admirable contribution of Dr. Crozier Griffith upon the Diseases of the Blood and Blood-making Apparatus—necessarily carry us far beyond the limits of the affections of childhood. Nevertheless, these writings are so excellent and thorough in their treatment that one may well overlook any incongruity in being enabled to study therein the latest teachings of science upon matters of profound interest. Moreover, if one were to be hypercritical it would not be difficult to select other topics which are here discussed, with very little reference to the pathology of childhood, but which, on the other hand, could not have been adequately dealt with had they been thus limited in their scope.

The volume opens with an article upon Functional Disorders of the Stomach, from the pen of Dr. W. Pepper, an article of especial value from the therapeutic point of view. To Dr. H. A. Hare is assigned the subject of Diseases of the Stomach, and his discussion of the question of dilatation is worthy of attention. The important topic of the Diarrhœal Diseases is dealt with by Dr. L. Emmet Holt in a masterly manner, and his article should be read in connexion with a subsequent one upon the Intestinal Bacteria of Children, contributed by Dr. W. Brooke. Dr. Holt discusses the etiology of these affections at some length, and his contribution to their morbid anatomy, based on his own researches, is perhaps the best account extant on the subject. This part is very fully illustrated by photographs and histological drawings, which are of great excellence, and which greatly facilitate the comprehension of the text. The anatomical conditions of this group are given by Dr. Holt as comprising—(1) acute desquamative catarrh; (2) acute catarrhal ulceration; (3) acute inflammation of the lymph nodules with ulceration (follicular ulceration); (4) acute croupous inflammation; (5) chronic inflammation. The characters of the stools are given in detail, whilst the clinical descriptions are treated under the heads of simple diarrhœa, acute mycotic diarrhœa (including cholera infantum), acute entero-colitis, and chronic diarrhœa. Dr. C. W. Earle writes on Constipation, and gives some very sensible directions for meeting this frequent and troublesome condition in infants and young children. Dr. Jacobi's article on Tabes Mesenterica is valuable for the differentiation he makes between the various conditions comprised under that head. The article on Hernia by Dr. W. J. Taylor includes notice of the rare states of diaphragmatic and lumbar hernia. Dr. W. W. Keen writes on Intestinal Obstruction, which, in children, is practically limited to obstruction by foreign bodies, intussusception, and strangulation by bands, although the second affords the vast majority. Reduction of an intussusception by means of injections of water or air is, he says, only available during the first twenty-four hours, and, though laparotomy is a serious step to take, he is of opinion that it should be undertaken

if such milder measures fail. Dr. Henry Ashby writes on Peritonitis, and, it may be remarked, discountenances surgical interference, unless there be evidence of suppuration. Dr. Christian Fenger's article on Perityphlitis, Paratyphlitis, and Perityphlitic Abscess is a very valuable study of a class of disease just now engaging much attention. Here again the question of surgical intervention comes up for consideration, which it receives at Dr. Fenger's hands in ample detail. We must content ourselves with citing his closing remarks: "It is possible that even in this desperate condition more lives might be saved by early operation. From Fitz's statistics it appears that 35 per cent. of the patients with perforating appendicitis died during the first five days. To save some of these operation might have been necessary as early as the third or even the second day. The difficulty of positive diagnosis, however, and the hope of limitation of the peritonitis may prove a barrier in the way of early operation."

Dr. Senn's article on Diseases of the Pancreas is introduced by a description of the normal anatomy and physiology of the organ, and the subject itself (which is dealt with mainly in regard to surgical measures) is discussed systematically under the heads of Wounds, Acute Pancreatitis, Chronic Interstitial Pancreatitis, Gangrene, Abscess, Cysts, Carcinoma, Tuberculosis, and Syphilis of the Pancreas. It is obvious that many of these conditions are not amenable to surgical treatment, but it is a great advantage to have a coherent account of a class of affections that have hitherto been so little studied, but which must have important consequences. The three articles devoted to Diseases of the Liver are shared by Drs. Dwight-Chapin, Müsser, and Hatfield, the first-named dealing with Functional Derangements, the second with Enlargements, and the last with Contractions of the Liver. These articles are sound and instructive.

To Dr. Goodhart has been assigned the duty of writing upon acute and chronic Bright's disease, and it is needless to say that his article is at once suggestive and practical. He expresses the opinion that exposure has a greater share in the production of the acute affection than is mostly admitted. In regard to acute nephritis as a diffuse inflammation involving the interstitial tissue as well as the epithelial, he concurs with most modern pathologists. He points out that it is rare to get a typical large white kidney, and that the initial change is glomerular or vascular. Several examples are given in graphic style. The important statement is made that he has not seen much benefit from the use of pilocarpin, and prefers the wet pack for inducing diaphoresis. Chronic Bright's disease is rare in childhood, and is therefore not discussed at any length. Only a few scattered cases are to be met with in literature. Mr. Henry Morris follows with an article on Surgical Diseases of the Kidney, few of which, we opine, are likely to occur in children. The subject of Vesical Calculi is dealt with in an exhaustive manner by Dr. W. Hunt, who enters very fully into the various modes of dealing with them. He sums up his argument for the selection of particular operative procedures as follows:—

"1. That the lateral lithotomy and median perineal lithotomy still hold, and are likely to hold, the first place in the minds of most surgeons of this day for the relief of male children from stone in the bladder. 2. That the high operation is advisable in boys in selected cases of very large stones, or for some other particular reason in the especial case. In girls, where even a moderately large stone is too hard for the lithotrite, this operation should be performed. 3. Litholapaxy, admirably adapted for girls, is still on trial for boys. There is not yet enough evidence in its favour to justify one in saying that it will largely replace perineal lithotomy, and so take the first place in the list; but, from what has just been quoted of Preyer's experience, it looks very like it indeed" (p. 631).

There is an interesting and copiously illustrated article by Dr. Forrest Willard on Malformations of the Penis, Ureter, and Bladder, as well as chapters on the diseases of these parts. The editor himself contributes one on Diseases of the Uterus and Ovaries, whilst a lady contributor, Dr. Clara Marshall, writes upon Abnormalities of the Female Genital Organs and Mammary Glands.

The contribution of Dr. Crozier Griffith upon Diseases of the Blood and Blood-making Organs is a very successful essay upon a difficult and obscure subject. It may be noted, in passing, that the writer divides the various forms of anæmia into the two categories of non-cytogenic and cytogenic. We observe that he describes the rare condition of splenic anæmia, and that he employs the term "lymphatic anæmia" as indicative of Hodgkin's disease. Considerable space is devoted to the description of the comparatively little known condition of Infectious Hæmoglobinuria of the Newly-born, first described by Pollack in 1871, and more fully in 1879 by Winckel. Its pathology would appear to rest upon the discovery of microbes in the blood suggestive of its being caused by ptomaine poisoning, leading to hæmolysis and hæmoglobinuria. This article of Dr. Griffith also includes a description of Addison's disease. The remaining 500 pages of the volume are devoted to surgical subjects. The chief are Minor Surgery and Emergencies, by Dr. C. W. Dulles; Wounds, by Dr. Jas. McCann; Club Foot and Torticollis, by Drs. Bradford and Brackett; Curvatures of the Spine, by Dr. Gibney; Fractures and Dislocations, by Dr. J. H. Packard; whilst Dr. Macewen of Glasgow writes on Acute Inflammation of Bone.

From this brief survey of the contents of the volume some idea may be gained as to its scope and the thorough manner in which it has been compiled. By a careful selection of writers of established reputation the editor has gathered together a really remarkable series of monographs which reflect completely the present knowledge of medicine and surgery. The production of such a work is a literary achievement of no mean order.

Domestic Sanitary Drainage and Plumbing. By WILLIAM R. MAGUIRE, A.I.C.E., registered teacher of plumbing, &c. Pp. 437. Numerous illustrations. London: Kegan Paul, Trench, Trübner, and Co.

UNDOUBTEDLY Mr. Maguire has succeeded in writing a very practical and instructive work that will be useful to all who are interested in sanitary science. He very appropriately commences by showing the high respectability and antiquity of the plumber's craft. In the ruins of ancient Rome and of Pompeii many remarkable examples of what plumbers could do 2000 years ago have been discovered. In more modern times we find that the Plumbers' Guild was established in 1365 by King Edward III., but that the trade has since fallen to so low a level that, out of 3000 houses inspected, the author of the work before us found only thirty free from defects in plumbing and drainage. It is high time, therefore, that the craft of plumbing should be raised to a higher level, that every plumber be properly instructed in the technicalities of his trade, and not allowed to enter into business till he has obtained a diploma showing he has passed the necessary examination. Mr. Maguire's book affords a very good insight into what ought to be the main features of such an examination. He commences with a description of such knowledge of physics and of chemistry as is indispensable—for instance, the laws that govern the flow of water, the ascension of gases, &c. Then we have the chemistry and the *pratique* of sewage disposal, and after that the volume deals with the main question—i.e., house drainage. A great number of illustrations are given, and these for the purpose are better than the best of written descriptions. We have not only

woodcuts of the familiar pans, flush tanks, syphons, drain-pipes, &c., but there are also some cuts to show how these work as the water flows through them. Mr. Maguire's book is not valuable by reason of any novelty or specially original point brought forward, but rather as a most useful compilation of nearly all the practical information that exists on the subject. The work, for example, concludes with a collection of plumbers' rules and tables, such as the pressure of water in pounds per square inch under various heads in feet; records of temperature and pressure of steam, the weight of pipes according to their size, and the material—iron, lead, copper, hardware, &c.—of which they are made.

New Inventions.

NEW ELASTIC LUNG PROTECTOR.

THOSE persons who believe in the utility of those articles of apparel known as "lung protectors" will welcome those supplied by Mr. William Nisbet, of Queen Victoria-street. The materials of which the samples submitted to us are made are of undoubted excellence, and cannot fail to be most comforting to those who require a protection for the front part of the chest. The articles in question are soft and downy to the touch, porous, light, and elastic. They are supplied in different qualities, and when covered with silk present an appearance of finish which it would be difficult to excel. Mr. Nisbet claims for these "protectors" that they do not become hard by wearing, and that they are 10 per cent. cheaper than those ordinarily sold. To add to their value and comfort, the material of these "protectors" is washable, thus ensuring in their construction the three leading ideas in the manufacture of any garment: cleanliness, lightness, and warmth. Ladies particularly will find them of great hygienic value under many circumstances.

EYE-DROP FLASK.

MESSRS. REYNOLDS & BRANSON of Leeds have forwarded a sample of the Eye-drop Flask, which presents the novelty of having the label enamelled or painted on the glass, thus obviating the difficulty of making a paper label stick upon flasks of this shape. The additional cost of enamelling the desired label is insignificant.

ROYAL STATISTICAL SOCIETY.

Presidential Address by Dr. F. J. Mouat.

THE fifty-seventh session of this Society was opened on Tuesday, the 18th inst., at the Royal School of Mines in Jermyn-street, when the President, Dr. F. J. Mouat, F.R.C.S., LL.D., delivered an inaugural address.

The President, after a few preliminary remarks respecting his election to that office, intimated his intention to refer only to current topics of interest fairly within the province and purview of the Society, and then proceeded, in a brief obituary notice, to record the estimate universally entertained of the valuable work and the worth of the late Sir Edwin Chadwick, one of the earliest members, as well as a distinguished Fellow of that Association. To have attained the distinction of being the father of sanitary science in England, and as entitled to a foremost place in the front rank of public benefactors from a life-long devotion to the improvement of public health, was a distinction accorded to very few in any age and country, and fairly due to him. He next referred to the recent International Penitentiary Congress held at St. Petersburg, to which the Howard Medal of the Society was presented in token of approval of the celebration of the centenary of the death of the philanthropist and of the honour and respect paid to his memory by the country which contains his ashes. The nature and objects of the International Congress of Hygiene and Demography to be held in London next year were briefly explained, and the cordial support of the Society was claimed for it. The relations of the Society to the questions of labour and capital, the next decennial census, the food-supply of the nation in relation to its economic aspects and to the defence of the country in the event of war or invasion, and the value and advantages of the anthropometric identification of criminals, were all referred to, and suggested as fitting subjects of the attention of the Society, particularly with reference to the new departure in strikes, and their possible disastrous effects upon the commerce and social relations of the country, and the desirability of an independent collection of the statistics of the great centres of industry on the plan of those of Paris and Berlin, as a precursor to a more extensive system of census returns on the part of the State in the future. The *pièce de résistance* of the address was, however, devoted to the hospital question now under investigation by a committee of the House of Lords. This question was treated in considerable detail as respects the organisation of medical relief in the metropolis. The President intimated that the question of hospitals in their relations to the sick and to a great school of medicine first engaged his attention in 1841, when attached to the Medical College of Calcutta, and during a subsequent official career of nearly half a century they were never lost sight of by him. In 1881 he endeavoured unsuccessfully to attract to it the attention of the International Medical Congress assembled in London in that year, and in 1883, in connexion with Mr. Saxon Snell, an eminent architect of much experience in such work, a joint treatise was produced on hospital construction and management, to which was appended a section on the special branch of the subject referred to above.

The basis of Dr. Mouat's plan was the absolute inadequacy of the general hospitals, endowed, voluntary, and special, for the needs of the sick poor of London, and the consequent necessity, as well as equity, of the extension of the principle of the Medical Relief Disqualification Removal Act of 1885, to the treatment of the acute non-infectious diseases of the sick poor in the separate Poor-law infirmaries, and their conversion into general hospitals for that purpose only. In structural arrangements he considers them to be among the best hospitals in the country, and a moderate extension of their establishments would enable the whole of the duties of that class of institutions to be performed by them for the sick poor of London immediately above the pauper class. He also advocated the establishment of a central hospital board for London, with a view to subject the whole of the institutions for the care and treatment of the sick and injured to public control and supervision, as obtains with regard to all other charitable institutions in the country—their autonomy, however, remaining as it is in all matters not opposed to the public good. As an example of the benefits resulting from the action of a competent and judicious central board, he instanced the Metropolitan Asylums Board, and exhibited an example of their work in the report of their statistical committee for 1889. He deprecated strongly any proceedings in dealing with the hospital question calculated to shake public confidence in such valuable institutions as those devoted to the healing of the sick, but believed that the time had arrived for their reform to place them in harmony with the spirit of the times. He concluded by drawing attention to the exceptional circumstances and changed conditions of life in association of the times in which we live, and advocated increased activity on the part of the Society in dealing with all current economic and other questions which need the application of the numerical method for their right understanding.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION. The annual dinner of this school will take place at the banqueting-room, Crosby Hall, Bishopsgate-street, E.C., at 7 P.M., on Saturday, Dec. 13th. The President (Mr. Maclure) will take the chair, and Surgeon Parke, of the Stanley Expedition, will be present as the guest of the evening. Tickets can be obtained of C. J. Downes, Glenholme, Willesden Park, N.W.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 22, 1890.

THE publication by Professor KOCH of an account of the method of treating tubercular disease which, as the result of years of patient research, he has discovered, may be taken as evidence that he himself is satisfied of its efficacy. No doubt this publication has been in a sense forced on him by the extraordinary anxiety manifested on all sides to learn something tangible concerning a remedy about which the greatest possible expectation has been raised. From one point of view, therefore, this early publication is to be deprecated, since it does not contain any records of cases, or any account of the lines pursued by the discoverer in the production of the remedy, and no exception can be taken to a postponement of final judgment until all these facts are before the profession. Nevertheless there are few men more worthy of confidence than Professor KOCH, whose whole record is that of the patient, earnest seeker after truth, and who has already done so much to widen our conceptions of disease. That this is the general opinion is shown by the reception given to the first intimations by him that he was within reach of succeeding in his search for an antidote to the tubercular virus. Such a statement from many another source would have been received with more than incredulity, but this announcement, when made at the International Medical Congress, was welcomed as "glad tidings of great joy," for it was generally felt that ROBERT KOCH was a man who seldom made a statement which he could not justify, and one who, in this particular instance, must have felt the tremendous issues depending on his utterances. This comparative absence of scepticism amongst a profession who have good reason for being sceptical of alleged "specific" cures is further explained by the conviction of the truth of the doctrine that tuberculosis is owing to the invasion of the body by a parasitic bacillus of which Professor KOCH was himself the discoverer, and with the life-history of which he is very familiar. If, indeed, he has succeeded in showing how this insidious foe of mankind can be held in check, he has crowned his first achievement by a still greater discovery, and will have earned undying fame.

It is, however, in the presence of the remarkable degree of public interest and of professional approval, somewhat difficult to take at present a thoroughly impartial and dispassionate view of the subject. In some respects the publicity given to his researches must be laid at the door of Professor KOCH himself, whose announcement at the Congress raised expectation to so high a pitch, and although one gathers that, with the caution that has always characterised him, he himself would have preferred to delay the publication of his results until he was in a position to present the world with full details of the steps of his investigation, and of the nature of the substance for which he claims such remarkable properties, he has perhaps acted wisely in not further postponing such information as he felt justified in giving. In so doing he has satisfied curiosity up to a certain point, and the operation of the method is now being watched by numbers of medical men from all parts, who have gone to Berlin in the interests of their patients, or as deputations from scientific bodies, or merely for their own personal information. But there are also obvious disadvantages attending the course which has been pursued, of which the chief is undoubtedly that it has led to the gathering in the German capital of many sufferers who had far better have remained at their health resorts until the remedy had been further tested, or, what is more to the purpose, until the supply of it should have become somewhat equal to the demand. And this leads us to express the strong opinion that it is incumbent upon Professor KOCH to lose no time in making known the details of the method of preparation of the substance in question. We are quite aware that this disclosure is certain to be followed by the production of many spurious imitations of it, but the profession will surely take care that it is only furnished with the remedy from accredited sources. There may be great difficulties in securing the pure reagent, but there are institutions all over the world which are under the direction of men fully competent to follow in the steps of Professor KOCH. Thus in London we have, in the laboratory established by the Royal Colleges, of which Dr. SIMS WOODHEAD is director, an institution which might well furnish supplies of the material in a trustworthy form. We say this because, amongst the many rumours that have been current of late, there has been one which seems to point to the intention of the German Government to retain, as it were, the monopoly of the remedy in its own hands, or, in other words, to become the proprietary of a vast patent-medicine factory. We do not believe that such can be contemplated, although we think it might reasonably be required that the "remedy," wherever prepared, should be tested as to its qualities by some central authority, for example, in an institute under Professor KOCH.

Turning now to the extremely interesting paper which was published in Berlin at the close of last week, and which we reproduce in our impression to-day, we may remark at the outset that the action of the remedy is not precisely of the character which the statements made during the Congress led the audience to expect. It will be remembered that Professor KOCH, after enumerating various substances which he had found capable of preventing the growth of the tubercle bacillus outside the body, went on to say that he had at length succeeded in obtaining a substance which operated likewise within the body of the guinea-pig, and, further, which rendered that animal insusceptible to the effects of tubercular inoculation. It appears, however, that this substance is not of the nature of a germicide, for he expressly draws attention to the fact that it acts, not by destroying the bacilli, but by killing the "living tuberculous tissue" in which these bacilli flourish. Nor is he at present prepared to state that its injection confers immunity in man as it apparently does in the guinea-pig. These statements are very remarkable. For since the adoption of the bacillary doctrine of tuberculosis, the common explanation of the new tissue formation has been that it is

a necessary result of the action of the parasite. In a sense the alleged specific effect of KOCH'S injections is to hasten the process which is carried on more slowly in the natural way by caseation, sometimes leading to a spontaneous cure. But unfortunately the destructive processes and the spread of the local infection are seldom thus arrested; whilst, in addition to the specific action of the bacillus, there is further disorganisation from the supervention of suppurative inflammation. Moreover, there is always a liability to the general dissemination of the bacilli throughout the body. According to Professor KOCH'S inference as to the *modus operandi* of his remedy, the tubercular subject cannot be regarded as cured until all these bacilli are expelled from the body, and yet by his method they are only to be so got rid of with the elimination of the necrotic tissues themselves.

The remarkable selective property of the reagent for living tuberculous tissue is illustrated by Professor KOCH in its effect upon lupus—a tubercular affection which is so striking an instance of the localised form of the disease, and in which the changes can be easily observed. These are observations which are open to ready confirmation, and we shall soon be in a position to hear more of them. The objection might be raised that lupus is not comparable to pulmonary phthisis. But this is at once met by the interesting, though meagre, facts given by Professor KOCH about the effect of the remedy upon the latter affection. In respect to phthisis, it is of the greatest importance that the profession should be at once furnished with fuller records of the action of this potent remedy. It needs no special knowledge to appreciate the magnitude of the risk entailed by a procedure which is likely to set up in such vitally important organs as the lungs a widespread process of acute necrosis; and we confess to being astonished at the comparatively slight symptoms mentioned in the paper. Further, in all forms of chronic tubercular disease it is obvious that no remedy can restore tissue which has been destroyed by the reactive inflammatory changes which accompany tuberculous processes. Hence the great importance to be attached to early diagnosis, and the injunction of Professor KOCH to physicians to never neglect the systematic examination of the sputa for bacilli, as an important aid to such diagnosis, will not pass unheeded. But he himself furnishes us with another diagnostic aid derived from this injection itself. For so marked is its affinity for tuberculous tissue that a minimal quantity will produce very obvious reaction when injected in a tuberculous subject. And herein lies what seems to be the most remarkable fact of all that he has adduced. It is that the dose required to produce an appreciable effect varies inversely to the extent of tuberculous disease in the body; and that in proportion as the amount of tuberculous tissue is destroyed, so does the subject become capable of bearing without reaction the injection of larger and larger doses of the remedy. If all these statements are capable of corroboration, then indeed medicine will have made a notable advance not only in the treatment of this particular disease, but in the science of therapeutics. Hitherto the action of remedies has been largely a matter of inference and often of mere hypothesis. Now, if the facts be well founded, we have a flood of light thrown upon the reason for the selective action of remedies and upon the doctrine of tolerance. But it opens up a wider vista still, for may not similar methods be applied to the treatment of leprosy among the more chronic infective diseases, and possibly to the arrest of cancerous growths, not to speak of the acute specific diseases in which analogous processes take place?

It is idle to speculate upon the possible outcome of these remarkable researches. At present it is our duty to accept the statements which, coming from so trustworthy a source, can neither be lightly regarded nor inconsiderately dismissed. The profession throughout the world is prepared to test their accuracy, and would gladly welcome the practical fulfilment of the expectations that have been aroused by them. It is satisfactory to know that they will be thoroughly tested by competent and judicious clinical observers. We do not pretend to forecast their verdict, which to so many must be a matter of the greatest moment. In the interest of humanity, however, it is above all things needful that no exaggerated estimate be formed of the powers of the method, and that the utmost care be taken in the selection of cases for treatment, whilst at the same time there should be no abandonment of the recognised rules of our art in placing the victims of tuberculous disease in conditions favourable to their recovery. In a few weeks we may hope to see the experiments on the method carried on upon a scale which will enable a definite conclusion to be formed. To-day (Friday) the Royal College of Physicians will consider the advisability of taking official steps in the matter, and we trust that the Fellows will see their way to appoint a Commission to act on the lines laid down in the letter of "F.R.C.S." which appears in another column. We are glad to learn that already two such competent observers as Mr. WATSON CHEYNE and Dr. HERON have been entrusted with a supply of the remedy for the purpose of demonstrating its mode of application to members of the profession in London.

THE General Medical Council usually meets twice a year—in May and in November. By a curious coincidence Parliament and the Medical Council will both assemble for business on Tuesday next, Nov. 25th. There is a general understanding that the May meeting is devoted chiefly to questions of Education and the November meeting to questions of Registration. But, in fact, this hard-and-fast distinction of the work of the two sessions is not practicable, and there is little doubt that in the approaching session both sets of questions will engage the attention of the Council. We have referred to the coincidence of the day of meeting of Parliament and the Medical Council. We trust that the analogy of these two Parliaments will not be carried too far. The one is a Parliament, the other a Council. The one assembles to make laws, the other to administer one or two Acts. Much speaking is an obvious fault of the larger body, and in recent years has sensibly lessened public respect for it. It is an equally glaring one in the smaller. Last session was unusually prolonged. There was some excuse for this in the very serious subjects which engaged the attention of the Council; but, even so, time was wasted by a want of grasp of business, chiefly in the earlier days of the session. At the previous meetings much care had been taken to delegate the principal sub-

ects to committees, which, it was hoped, would thrash them out and put them into form for settlement. The weakness of this arrangement is that committees made up of members representing different nationalities can only meet when the Council is in session, and that the Council itself is very large and made up of so many conflicting, or at least competing, bodies, that whatever the unanimity of a committee in giving a report, the process of dissecting it and discussing it is a long one and leads to a great consumption of time. The extension of medical education by one year raises new hopes to every teacher and to every examiner, and we may expect in the coming session to see various attempts made to appropriate it for different classes of work. The best use of this particular year will be to complete the opportunities and the means for letting the student who is soon to be a practitioner see the application of all he has been taught to actual cases. The torture of examinations must not be increased. The Council is a Council of Medical Education. It will best fulfil its function by encouraging such improvements in education as will supersede in some degree the harassing and uncertain examinations which hinder education, and which often affect so disastrously the best men in the schools. The Council will be expected, too, to encourage the fundamental principle of the Medical Act of 1886, that all medical practitioners worthy of the name must be instructed in the three great branches of the profession which apply to the three great wants of mankind. All schemes for breaking practice up into bits it should receive with reluctance—such as Midwives' Bills, Dentists' Bills, &c. One or two such may in the present stage of society be inevitable, but the fewer the better. It is understood that an attempt will be made to induce the Council to agree to urge on the Privy Council the desirableness of increasing the number of direct representatives in the Council. By Section 10 of the Act of 1886 the General Medical Council may, *at any time*, represent to the Privy Council that it is expedient to either increase or abolish the representation of any of the bodies represented in the Council or of the registered medical practitioners in any part of the United Kingdom. It will not be doubted by the profession that the Council will never work satisfactorily till the proportion of direct representatives to the representatives of "interests," educational or examinational, is increased. But the exact time and manner of putting forward such a proposal is a matter that involves much difficulty. We fear it is too much to hope that the November meeting will pass without some cases of alleged irregular or unprofessional conduct coming up for investigation by the Medical Council, and it is not impossible that one or two days of the session may be so absorbed.

THE determination of the Council of the Royal College of Surgeons of England, to which we draw attention in another column, to maintain the attitude of opposition to the claims of the Members will prolong a state of internecine conflict which it is desirable, in the interests of the College and of the profession, to bring to a speedy and honourable end. Supported as they are by the weight of argument, the Members of the College cannot recede from the position which they have assumed; but if a fair compromise were offered, it is almost certain that they would be willing to accede to it. Underneath their opposition to the Council there lies a strong sense of attachment to an institution of which they are proud, and the smallest sign of trust in them as a body would be responded to by a frank loyalty and confidence which would be a tower of strength to the College. Among the Members of the College are men of scientific eminence, business capacity, and knowledge of affairs who would take a justifiable pride in increasing its wealth, its influence, and its fame; and deliberately to exclude such men from any share in the government, and to alienate the sympathies of the main body of the constituents of the College, is a suicidal act which good fortune alone can prevent from inflicting permanent injury on the institution. If the Council of the College were a united body, strong in the belief that surgical science would suffer from admitting to the franchise and to a seat in the Council chamber anyone who had not passed the examination for the Fellowship or had the Fellowship by grace conferred upon him, the situation would be more tolerable than it is. But it is notorious that among the twenty-four councillors are several who sympathise with the aspirations of the Members and some who would be grateful if an acceptable solution could be reached. These members of the Council suffer themselves to be overruled by the stronger conservative element, and give no sign of the faith that is in them. Is it expecting too much to ask them to back up their opinions with their votes, and let it be clearly seen with whom the responsibility rests for prolonging a state of conflict which the display of a spirit of conciliation and concession of a very moderate kind would terminate now and for ever? It was openly stated to the deputation from the Fellows' Association that the movement in favour of the amendment of the constitution would collapse, and it is in this belief, erroneous as it is, that the Council continues to maintain its ground. Moreover, the Council relies upon the dislike of the majority of the Fellows to make any concession to the Members of the College. This feeling was fostered by the apparently aggressive attitude of the Members and their claims to equal electoral power with the Fellows; but it is by no means certain that the antagonism will survive for any length of time. The status and supremacy of the Fellows are not in jeopardy, for an increase of the privileges of the Fellows such as is advocated by the Association of Fellows is quite compatible with allowing to the Members a substantial voice in the management of the College. When this fact is recognised by the great body of the Fellows their leading idea will no longer be to exclude the Members altogether from the franchise and from representation, and the last prop of the Council in regard to the matter in dispute will give way. Meanwhile the appeal of the Members must lie to the Court of Chancery and to the Legislature, and every effort will have to be made to inform the public mind and create that public opinion by which reforms have been effected in the past. This it was, combined with an overwhelming display of professional support, which led to the representation of the profession in the General Medical Council, and as the case of the Members of the College rests on grounds substantially the same as the claims of the profession to representation in the Medical

Council, the Members of the College have only to show a united front to ensure to their champions the victory in the struggle.

THE Supplement which we published last week on the subject of Life Assurance and the Medical Profession represents as much as it is possible for us, in the capacity of medical journalists, to accomplish towards the desirable end of diffusing the knowledge and popularising the practice of this most useful and even necessary form of thrift. And we are even disposed to hope that our labours will prove to have been in no small measure helpful to our readers. The information conveyed through our pages should certainly make it easier now than it was before for a medical practitioner to assure his life to good advantage, since he may easily discover which are the companies that are addressing themselves to adapt their business arrangements to his particular needs, and how he may secure the important advantage of escaping the burden of the agent's commission, which, as a rule, has to be borne by the holders of a Life Assurance Company's policies. In order that this important information may be as widely distributed as possible, we have reprinted the Supplement in a separate form, and circulated it gratuitously to every member of the medical profession upon the Register. In this way we hope to have effectively accomplished the task which we have undertaken.

But, although our share of the work is, for the moment, done, we cannot but perceive that it has created an opportunity of which we have been able to take only partial advantage. More than one of the Life Offices, replying to our inquiries, have intimated their readiness to communicate with a Medical Committee, if formed, with a view to the adjustment of life assurance facilities to the professional requirements of medical men, and it would, in our judgment, be a matter for great regret if this suggestion were to be allowed to fall flat. The great scope for such adjustment which existing arrangement affords is strikingly illustrated by the fact that on receipt of our circular communicating the results of the preliminary inquiry which we had made throughout the profession, one of the leading Offices immediately produced a new table, unpublished before either by itself or by any other Company, which undoubtedly has the merit of meeting in a very striking way the peculiar exigencies of a professional career. Much more remains to be done in the same direction. The past few years have seen great improvements introduced into the practice of Life Assurance in the way of liberalising its conditions, abolishing needless restrictions, and protecting the benefits of the contract against forfeiture. But these improvements have been adopted in various degrees and under various forms by the different Offices, and the consequence is a most bewildering variety of contracts, differing from one another in important details, while all conforming to certain broad outlines. A proposer cannot tell without the most painstaking and skilful preliminary examination what sort of a policy he is in reality going to get. It may be almost as negotiable as a bank-note, or it may be hedged about with so many limitations, restrictions, and conditions that the most innocent mistake or the most trivial oversight may place him at any moment at the mercy of the directors. Much might be done in the way of securing uniformity of conditions and reducing the Life Assurance Contract to a simple and easily intelligible form if the Companies were approached by a strong and representative Committee. We trust then that some amongst the influential members of the profession will see the importance of making use of the present opportunity and combining for the purpose of carrying on to its completion the task which we have put in hand.

Annotations.

"Ne quid nimis."

THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND THE FELLOWS AND MEMBERS.

OUR readers may have observed that the Council of the Royal College of Surgeons of England had under their consideration on the 13th inst. the resolution passed at the annual meeting of the Fellows and Members, and the points raised by the deputation from the Fellows' Association. To the resolution of the Fellows and Members in favour of the introduction of a Bill into Parliament to amend the constitution of the College, and expressing regret that the Council has shown no disposition to meet the wishes of Fellows and Members in spite of repeated protests, the Council replies by referring to the resolution of the Council of November, 1888, in which they considered that with the grant of the Supplemental Charter the matters in contention should be allowed to rest. The answer destroys any hopes of an early settlement of the questions at issue between the Council and the Members of the College which may have been engendered by the attitude of Sir Spencer Wells at the annual meeting, and means a continuance of an internecine struggle. For can the Council seriously believe that they can sit like Canute before the rising tide, and, with a resolution of this kind, arrest its course? The determination of the Privy Council to introduce into the Supplemental Charter only such points as were not the subject of contention did not mean a victory for the Council and a defeat of the Fellows and Members. It was simply a postponement of judgment, a reference of the controverted questions back to the contending parties, an exhortation to them to settle these questions by a mutual understanding and agreement. The Council therefore assumes a very serious responsibility in turning a deaf ear to the resolution of the general meeting, in determining to maintain its attitude of passive resistance, and sitting with folded arms continuing to repeat its everlasting *non possumus*. What course is now open to the Members but to proceed as they are proceeding in the Court of Chancery, and by the introduction of a Bill into Parliament? Those among the Members who dislike this action must see that the Council of the College prevents any intra-mural settlement. They might have invited a conference, as suggested by Sir Spencer Wells, but they have followed other counsel, and all hope of a settlement which would have done honour to both the Council and the Members must be regarded as at an end. In respect of the three points raised by the deputation from the Association of Fellows, and embodied in a memorandum which we published last week, the Council has decided (1) to take the opinion of counsel on the question of the power of the Council to call separate meetings of Fellows, (2) to refer the question of voting-papers to a committee, and (3) that it is out of their power to grant the request of the Fellows'

Association to consult the Fellows before concluding any arrangement with the University of London. It is a step gained by the Fellows' Association that they have at least succeeded in inducing the Council to take their first two points seriously into consideration, and we trust that this may lead to improved relations between the Council and a large section of the Fellows of the College.

TREATMENT OF ENURESIS.

DR. KUPKE of Posen, in a paper published in the *Allgemeine Medicinische Central-Zeitung*, gives his views on the treatment of incontinence of urine. He considers the cause to be either diminished activity of the vesico-spinal centre in the lumbar part of the cord, or partial anæsthesia of the sensory nerves of the bladder, both of these conditions preventing prompt information being conveyed to the cortex of the cerebrum when the bladder is becoming full. In cases where deep sleep occasions the brain to lose control over the bladder, it is well to keep a light burning in the room so as to lessen the depth of the sleep. After calling attention to a number of well-recognised causes of enuresis, such as phimosis, intestinal worms, &c., Dr. Kupke mentions Guyon's and Unverricht's methods of galvanising the parts, the former by means of a urethral electrode, the latter by means of a large stationary positive electrode applied to the lumbar region and a small negative electrode moved from place to place over the pubes. He himself, however, prefers faradisation, combined with medicinal treatment. The former is applied by means of a large, flat, stationary, positive electrode over the last dorsal and first lumbar vertebræ, while a small positive electrode is applied with stroking movements over the region of the bladder. The most valuable drug is one which is but little known in this country—the sweet sumach (Rhus aromatica). The preparation he employs is the Extractum fluidum rhois aromaticæ, of which from five to fifteen drops are given night and morning in a little milk, according to the age of the child. Treatment must in many cases be persevered in for three or four months in order to obtain a lasting cure. The well-known regimen as to fluids at night, a hard mattress, baths, &c., must of course be attended to. Strychnine, which used to be given before rhus aromatica was adopted, is best administered hypodermically—one milligramme of the nitrate daily. Tincture of nux vomica is unsuitable.

COLOUR-BLINDNESS AMONG SEAMEN.

WE learn from a contemporary that Mr. G. L. Swanston, Assistant Secretary to the Board of Trade, has forwarded a report to the Marine Department for the year ending May 31st, 1890, in which he gives the results of the examination in colours for masters' and mates' certificates of competency, as well as for other persons belonging to the mercantile marine. From this report it appears that the number of those who presented themselves for examination for the master's and mate's certificate of competency under Form Examination 2 amounted to 4662, being an increase of 219 over the previous year, when 4443 were examined. The number of those who were rejected for inability to distinguish colours was 23, which is only 1 in 200, a much smaller proportion than might have been anticipated from the percentage numbers usually given, which amount to about 3 or 4 per cent. In the previous year 18 were rejected out of 4443 for this cause, or 1 in 244—a still smaller percentage. The number of persons examined in colours only under Form Examination 2A amounted to 839, of whom 29 were rejected, or 1 in 29, which is about 3·3 per cent., being a reduction of about 1 per cent. as compared with the previous year, when out of 789 candidates examined 36 were rejected. The mode of conducting the colour test examination was the same as that described in the report for the year 1887—viz., by slips of coloured paper and by coloured glasses in a bull's-eye lantern at twenty feet; but the whole subject of colour vision and the best mode of conducting the examination are now under investigation by a committee appointed by the Royal Society.

THE LATE INFLUENZA EPIDEMIC.

AT the meeting of the Berlin Medical Society on the 3rd inst. Dr. S. Guttmann presented a preliminary report upon the collective investigation initiated by that society during the influenza epidemic of last winter. He stated that 18,000 cards containing questions had been distributed. Of those that had been returned filled up there had been selected 4000, which referred to as many as 100,000 cases. The committee is now engaged in analysing the information thus obtained. Nor has the investigation been confined to Germany. Many particulars have been furnished from Belgium, Italy, and Russia, whilst through the assistance of Professor Adamkiewicz a large amount of information has been collected in Galicia. A certain amount of information respecting outbreaks on shipboard has also been obtained through the ocean steamships companies. As soon as possible it is intended to publish in full detail the results of the inquiry, which cannot fail to prove of great interest from every point of view. It is, perhaps, to be regretted that in England, where the system of collective investigation of disease first arose, owing, it may be remembered, largely to the enthusiastic advocacy of the late Dr. Mahomed, there should not have been instituted an inquiry into influenza on the same lines as this German investigation, which seems to have been so successful.

PHYSICAL AND CHEMICAL CHANGES IN THE BLOOD IN DISEASE.

DR. SCIOLLA of Genoa, at the recent Congress of the Italian Society of Internal Medicine, reported some interesting experimental researches on physico-chemical changes of the blood in different morbid conditions. He stated that the density of the blood diminishes during acute febrile states and the first stage of convalescence, increasing afterwards with greater or less rapidity according to the nature of the disease. The same thing is always observable in the density of blood serum, with this difference, that it begins to increase as soon as there is any improvement in the condition of the patient, sometimes, indeed, a short time previously. The density of the serum is increased in malaria, whilst that of the blood is diminished. Tuberculous affections, unaccompanied by serious alterations of the blood, only slightly modify the density of blood serum and blood. The densities of blood serum and blood are both diminished in catarrhal jaundice, probably owing to defective assimilation of food. The density of the blood is almost normal, whilst that of the serum is increased, in cirrhosis of the liver and in cancer of the gall-bladder. The densities of blood and serum are not sensibly diminished in benign forms of diabetes. The greatest diminution in the density of the blood is observable in diseases accompanied by grave morbid changes of the blood. The most striking examples were those seen in three fatal cases of pneumonia. Dr. Sciolla also observed the chemical modifications of the blood in pneumonia, typhoid fever, malaria, anæmia, and in leukæmia. About the fourth or fifth day of croupous pneumonia there is a marked diminution in the albuminoid substances of the blood, especially the globulin. The extractive matters increase during the febrile period. In convalescence the quantity of albuminoids, especially of the globulins, and

also that of the serin, increase. The dry residue of the blood is not much diminished during the first stage of the disease, but it is so during the second stage, and continues less until convalescence. In typhoid fever the albumins of the blood diminish progressively (unless the diarrhœa is excessive), and this diminution occurs at the expense of the serin. The extractive matters gradually diminish during the whole of the febrile period, and even during the early stage of convalescence. In malarial fevers the amount of the albuminoids in the blood serum (especially the serin and in a less degree the globulin) and the dry residue of the blood diminish rapidly, while the dry residue of the serum and the extractive matters of the serum increase with the duration of the fever, the former in a slight degree, the latter enormously. In chloro-anæmia the albumins of the serum (especially the globulin) and the dry residue of the blood diminish, while the dry residue of the serum increases. In leukæmia the amount of dry residue of the serum is very high, and the albuminoids of the serum are also above the normal, the serin being especially increased.

DIRTY GUMMED ENVELOPES.

THE practice of moistening the back of ordinary gummed envelopes with the tongue certainly cannot be regarded as either elegant or cleanly, but has the advantage of being ready and convenient. The cleanliness and purity of the gum used are points, therefore, about which there should not remain the least doubt. We had occasion to comment upon this apparently trifling matter some time back. Since then we have had the opportunity of examining some specimens of ordinary envelopes which have been sent us by Messrs. Smith, Kay, & Co., of 42, Rathbone-place. With a view of satisfying ourselves as to the purity of the gum used, we immersed several of the gummed portions in pure distilled water. The gum was seen to be perfectly soluble. On examining the solution it was found to contain nothing but pure dextrin gum. The well-known iodine reaction was very marked, as was also the reducing action upon alkaline sulphate of copper when the solution was previously boiled with a little sulphuric acid, which, of course, brings about the conversion of the dextrin into dextrin sugar.

COMPARATIVE PHYSIOLOGY OF THE IRIS.

A COMMUNICATION made to *Pflüger's Archiv* by E. Steinach treats of the movement of the iris amongst the vertebrata, and of the relations of the reaction of the pupils to light to the optic chiasma. After examining a large number of the representatives of the various classes of the vertebrata, Steinach finds that there is no exception to the rule that the pupil contracts when light falls on the retina. The movement of the iris is perceptible even in fishes, though in these animals the response to the stimulus is so tardy in its appearance and so slight that special arrangements are required in order that it may be observed. The action of the sphincter is more marked in amphibia, and it is tolerably rapid in reptilia, partly probably because in them, as in birds, the muscle is composed of striated muscular tissue. Movements of the iris independent of variations of the intensity of light are to be seen not only in man, but in many mammals. They are remarkably apparent in birds and in chelonians. Steinach explains them as in some instances associated movements, as in accommodation; whilst sometimes they are due to elastic recoil taking place on strong contraction of the sphincter, or they may proceed from hydraulic causes, being dependent on the pulse and respiration. Steinach paid particular attention to consensual movements of the iris (that is, the movement of the iris of one eye when light falls upon the other), and he has arrived at the noticeable result that in all animals in which the optic nerves completely decussate only a direct pupillary reflex occurs; in no instance does any contraction of the pupil of the eye opposite to the one illuminated occur, whilst in those animals in which a more or less complete decussation of the optic nerves takes place the reflex on stimulating either retina is bilateral. Unilateral reflex myosis therefore occurs in fishes, amphibia, reptiles, and birds, and in the lower mammals up to the rodents—which last, although their optic tracts do decussate, probably present little decussation of the fibres subservient to pupillary contraction; whilst, on the contrary, in animals with optic decussation there is a division of the sphincter centres as well as of the reflex nerves of both eyes. It is only when non-decussating optic nerve fibres containing sphincter fasciculi, as in man and the higher mammals, exist that bilateral pupillary reaction takes place. It is where there is thus a bilateral exchange of reflex sphincter fibres that the pupils present equality of contraction, even when one eye is more strongly illuminated than the other.

CHINESE TREATMENT OF DIPHTHERIA.

A POPULAR remedy for diphtheria, which has been employed in China for over 300 years, recently formed the subject of a communication by M. Lecerf to the Société de Médecine Pratique of Paris. The treatment consists of blowing a powder into the throat, using a decoction of plants as a gargle and drink, and the employment of certain hygienic measures. The powder is called *sin-seh*, and it appears to consist essentially of borax, camphor, powdered pearls, cinnabar, acetate of copper, and charcoal, the percentage of borax and camphor being respectively 42·5 and 12. From twenty to thirty centigrammes of this powder are blown through a paper tube every two hours. The decoction is difficult to imitate, as it is made from the following: roots of the coptis teeta (Scutellaria viscidula), Hanax quinquefolium or ginseng, and Platycodon grand; flowers of Caprifolium chinense, fruit of the Uvularia cirrhosa, bark of Pterocarpus flavus, Capanus flavus root, and Glycyrrhiza glabra. About fifty grammes of each are boiled in a pint of water until it is reduced to 200 cubic centigrammes. This is filtered, allowed to cool, and given in three doses in the twenty-four hours. The regimen enjoins the avoidance of ice, cold drinks, sugar, and fatty matters and fruits, but allows at first boiled rice, eggs, and salt fish, and later boiled chicken and bread. A large number of cases are said to be cured in three days, but the evidence on which they are termed diphtheritic is by no means conclusive.

DIGESTION OF FAT.

TWO essays that have recently appeared deal with the important subject of the digestion and absorption of fat. Minkowski and Abelmann have both investigated the effects of entire removal of the pancreas and of the ablation of the greater part of the gland. They find that in dogs totally deprived of the pancreas when meat and bread with milk were given in such quantities as to supply 7 to 24 grammes of nitrogen daily (which represented from 45 to 153 grammes of albumen), 44 per cent. on the average underwent absorption, the extremes being 22 to 58 per cent. In dogs in which a small portion of the gland remained, on an average 54 per cent. was absorbed, the extremes being 40 to 83, the lowest amount absorbed being always associated with the most imperfect absorption of fat. The albumin of meat was, as in healthy animals, better absorbed than that of milk. The addition of fresh pancreas to the diet caused an immediate rise in the amount of nitrogen absorbed to 74 to 78 per cent. of that ingested. Of starchy compounds, which were given to the amount of 151 to 176 grammes per diem with the milk and the bread, 57 to 71 per cent. was

absorbed in animals entirely destitute of a pancreas, whilst after partial extirpation from 77 to 78 per cent. was absorbed. In regard to oleaginous compounds, it was found that when butter, olive oil, or lipanin, which is a preparation of olive oil, was administered to dogs without a pancreas in proportions varying from 36 to 78 grammes per diem, the whole of the fat reappeared in the fæces; but when fresh pancreas was administered absorption to the extent of from 48 to 73 per cent. took place, which is a noteworthy fact. In animals in which partial removal of the pancreas had only been effected, from 25 to 59 per cent. of fats were absorbed, though in these cases of course no fresh pancreas was supplied as food. On milk diet from 28 to 53 per cent. of the fats were absorbed in dogs without a pancreas, and in those with some remains of pancreas 65 to 80 per cent.; whence it appears that all fats, except those of the pancreas, require the presence of pancreatic juice to enable them to be absorbed. It is remarkable that, notwithstanding that the fats were wholly discharged from the economy in cases where the pancreas had been entirely removed, they were in great part—in fact, nearly to the extent of four-fifths—in the state of fatty acids, though partly also in the form of soaps. Minkowski thinks these facts point to an action of the pancreatic juice on the absorbing epithelium of the intestinal canal. It is difficult, however, to accept this theory in view of the absorption of milk in absence of a pancreas.

A WARNING TO DOG-OWNERS.

POSSESSORS of canine pets will do well to take warning from certain recently reported observations of Professor Nothnagel. These go to prove that the development of cysticerci in the human subject is in some cases to be attributed to contact with the saliva of lapdogs which have been allowed to lick the faces and mouth of their owners. The explanation is a feasible one, and adds a noteworthy contribution to our knowledge of morbid etiology. The tænia echinococcus, as is well known, inhabits the small intestine of the dog, and it is highly probable that the ova occasionally find their way into the animal's mouth; for example, in vomiting. There are various æsthetic reasons why the kiss of even the most cleanly and most friendly pug or terrier should be dispensed with. We have now, thanks to the Viennese observer, a still stronger argument to urge against this practice. It may, indeed, like the others, fail to daunt the too-devoted master or mistress, but we cannot do less than avail ourselves of this opportunity to forestall if possible, by a timely warning, the sharper teaching of experience.

THE SANITARY STATE OF SHOREDITCH.

LAST week an inquiry was held into the sanitary condition of Shoreditch, the commissioners appointed by the Home Secretary being Mr. Cubitt Nichols and Dr. Seaton, medical officer of health for Chelsea, with whom were associated Mr. Moffat and Mr. Brebner, members of the vestry, Mr. Shirley Murphy attending on behalf of the London County Council. The Mansion House Council, on whose application the inquiry was ordered, was represented by Mr. Corrie Grant, and the vestry of Shoreditch by Mr. Lewis Thomas. Mr. Corrie Grant stated the circumstances under which the Mansion House Council had asked for an inquiry. It appears that between March and August of last year the inspectors of that body had found numerous defects in houses in the district, a list of which was communicated to the vestry; at the end of the year these houses were re-inspected, when it was found that many, but not all, of the defects had been remedied. Dr. Sutton, the medical officer of health, had recommended the appointment by the vestry of an additional inspector, but this step did not appear to have been taken. Mr. Corrie Grant argued that the Mansion House Council limited its investigations to a small part of the district, and that they had come to the conclusion that, seeing it had taken the vestry so long a time to remedy only a portion of the defects to which their attention was directed, the number of sanitary inspectors employed by the vestry must be inadequate for the total wants of the district. The Mansion House Council had not sought this investigation in any spirit hostile to the vestry, but had been actuated only by the desire of making the dwellings of the poor more healthy than before. Mr. Cubitt Nichols stated that he proposed to follow the course adopted in previous similar inquiries, and therefore would inspect the district before the public inquiry was resumed.

DEATHS UNDER CHLOROFORM.

THE *Liverpool Mercury*, giving a brief notice of a recent fatality under this anæsthetic which occurred at St. Helens on Nov. 10th, draws attention to the alarming fact that three deaths from chloroform have been recorded from St. Helens during a period of only three months. It cannot be supposed that any one district is likely to possess a less favourable attitude towards chloroform than another, and leaving out of the question in what way chloroform kills, it certainly seems that deaths have been more frequent of late not only in St. Helens, but throughout England. From the report before us it appears that the patient, John Goulden, aged seven, had suffered from an affection of the knee which necessitated amputation of the thigh. Three medical men attended with the view of carrying out the operation, and chloroform was administered, but death took place before the amputation was completed.

SUMMER DIARRHŒA MORTALITY IN ENGLAND IN 1890.

THE mean temperature of the third or summer quarter of this year scarcely differed from the average for the corresponding period of 119 years. The temperature both of July and August was, however, considerably below the average, while that of September showed a marked excess. The rainfall, too, was considerably below the average in July and August, while in September little more than a fourth of the average amount was measured. The meteorological conditions of July and August were, therefore, decidedly unfavourable to the development of summer diarrhœa, and, as might be expected, the mortality from this disease was far below the average. The annual death-rate from diarrhœa in England and Wales during the quarter ending with September last was equal to 1·3 per 1000 persons estimated to be living, the average rate in the two preceding corresponding quarters having been 1·8. In the summer quarters of the ten years 1880–89 the diarrhœa death-rate ranged from 3·3 in 1880 to 0·9 in 1888, and the rate last quarter was lower than that recorded in the corresponding period of any of those years except 1881 and 1883, when the same rate prevailed, and in 1885 and 1888, when the rate was 1·1 and 0·9 respectively. The diarrhœa rate last quarter was 2·0 in the twenty-eight great towns, 1·4 in fifty other large town districts, and only 0·9 in the rest of England and Wales. Among the twenty-eight great towns the usual marked variations in the death-rate from diarrhœa were recorded. For instance, the lowest rates in these towns were 0·2 in Halifax, 0·8 in Bristol, and 0·9 in Huddersfield; while in the other towns it ranged upwards to 3·1 in Sheffield, 3·7 in Norwich, 4·2 in Leicester, and 6·8 in Preston. The rates in Preston and Norwich exceeded the average rates in those towns in the summer quarters of the ten preceding years, whereas in most of the other towns the recorded rates were considerably below that average. The marked excess in Preston

seems to call for special local attention, as in the six weeks ending Sept. 20th the diarrhœa rate in this town averaged no less than 10·9 per 1000. The diarrhœa mortality during the past summer quarter did not reach its maximum in the twenty-eight towns until the third week of August, and the maximum rate was not recorded in Wolverhampton, Blackburn, Bradford, and Huddersfield until the last week of September. There is still much to learn about the causation and varying incidence of infantile summer diarrhœa before the marked variations in the death-rates from this disease in different towns, and in the dates of its intensity, can be fully explained.

A MEDICAL CORONER ON THE VALUE OF STIMULANTS.

DR. CHURTON, holding an inquest at Nantwich on the body of Joseph Bowker, is reported to have spoken strongly on the value of stimulants. He described to the jury the beneficial effects of brandy-and-milk—was it the brandy or the milk?—in his own recent illness, which he declared had saved his life, and which were administered by his daughter, the effects of which very much astonished the doctors. It was said that Bowker had slipped on the stairs, and that brandy was administered to him with good effect. We can form no opinion of the fitness of brandy in this case. And we venture to think that even the coroner was scarcely entitled in this case to deliver a lecture on the use of stimulants to people suddenly taken ill or on his own case. This is not the use of inquests. The man died in this instance, and this did not say much for the efficiency of the treatment. People are too ready without advice from coroners to pour brandy down the throats of those slipping or dropping down. Sometimes it is right, but very often it is bad practice. Supposing, as is often so, the case to be one of apoplexy or epilepsy, the administration of brandy is likely to make matters worse. Coroners, and especially medical coroners, should stick to their own duties. One useful piece of advice a jury has just given in a case the report of which lies before us, where a poor man placed in a police cell for drunkenness passed gradually into apoplexy and died. The excuse was an awful one, and yet not without something in it—that 2400 persons had been charged this year with drunkenness, and not one turned out to be a case of illness. The jury expressed the opinion that in all *such* cases the doctor should be called. We assume the jury mean in all *doubtful* cases. It would be rather hard on the police surgeon to call him up 2400 times unnecessarily.

ATROPO-MORPHINO-CHLOROFORMISATION.

SPEAKING before the Société de Chirurgie, M. Paul Reynier gave his experiences of the use of this combination as an anæsthetic. Professor Dastre, the distinguished physiologist, had recommended the employment of atropine with morphine as a preliminary to chloroform in order to avert what he regarded as a common source of danger—cardiac paralysis due to vagal inhibition. He experimented upon dogs, and was led to form a favourable opinion of the practice, recommending it to surgeons. M. Aubert of Lyon adopted the plan, giving a hypodermic injection of one centigramme and a half of morphine hydrochlorate and three-quarters of a milligramme of sulphate of atropine fifteen or thirty minutes before the administration of the chloroform. M. Paul Reynier and others speaking at the same meeting were unable to confirm his favourable experiences; indeed, M. Reynier stated he had relinquished using the combination, as he had lost one patient from its employment. The patient, a chlorotic girl, who was to undergo a trifling operation, was chloroformed according to M. Aubert's method and the operation safely completed in ten minutes, some twenty to thirty grammes of anæsthetic being used. She recovered sufficiently to open her eyes; two or three minutes later respiration failed, and although artificial respiration, continued for half an hour, started natural breathing for a few seconds, yet eventually the patient succumbed. M. Reynier believes that even if atropine and morphine lessen the danger of reflex syncope, they increase other perils, from the fact that they lessen the elimination of the chloroform and tend to prevent recovery to consciousness. Admitting the value of Dastre's method for dogs, for which but little chloroform is required after a preliminary injection of atropine and morphine, M. Reynier warns against its employment for human beings, as they require large quantities of chloroform even after the preliminary injection, and the presence of the alkaloids in the circulation seems to increase the fear of poisoning; while the dangers of such after effects as vomiting, syncope, and failure of respiration do not appear to be lessened.

DIPHTHERIA IN KENSAL TOWN.

TWO reports have been issued by Dr. Seaton as to a prevalence of diphtheria in his district, the incidence of this disease being mainly upon the Kensal Town portion of the Chelsea parish. In one sense the reports differ from ordinary ones dealing with diphtheria. Dates as to attacks and progress of the disease, the period during which it has prevailed, and many other important points having to do with such occurrences are not given, and it would seem that Dr. Seaton's main object has been to show that none of the ordinarily known agents by which diffusion of diphtheria is occasioned can be credited with this special outbreak. The locality attacked is singular in its comparative freedom from drain and sewer nuisances, from overcrowding, and from unwholesome conditions about houses. No suspicion attaches to milk, and the spread was not connected with any particular school. This negative sort of evidence is followed by explanation of the difficulties in which we are placed owing to our scanty knowledge of the etiology of diphtheria; and finally there is a suggestion whether it would not be desirable to direct the attention of the Local Government Board to the question of the present system of removal of cases of diphtheria to hospital, and to the alternative plan of treating them at home under nurses specially provided by the public authority. It so happens that Dr. Seaton has special opportunities for giving counsel on this very subject, for, in addition to his long and varied experience as a health officer, he is also a member of the only hospital board in this country who have any considerable experience as to the isolation in hospital of diphtheria cases. There have been rumours as to the practice being undesirable when adopted on a large scale, and Dr. Seaton doubtless has some information bearing on this point. As it is, the reports unfortunately do not help to clear up either this matter or the cause of the Kensal Town diphtheria.

OXFORD UNIVERSITY AND MEDICAL DEGREES FOR WOMEN.

THE question as to whether or not Oxford University should admit women to the examination for the degree of Bachelor of Medicine was discussed on Tuesday, and settled by the final vote in congregation. In all the preliminary stages of voting there has been a small majority in favour of the statute. The rejection of the statute was moved by Professor Case, who has on various grounds consistently opposed the proposal from its inception, alleging, among other reasons, that the admission of women was not required, inasmuch as the London School of Medicine afforded every facility for the study of medical subjects.

The other side was championed by the Rev. W. W. Jackson, Rector of Exeter College, and Mr. Arthur Sidgwick, of Corpus. The rejection of the statute was carried by a majority of 4, 154 voting.

THE KNEE-JERK IN TRANSVERSE MYELITIS.

SINCE the publication some months ago of Dr. Bastian's paper on the loss of the knee-jerk in patients suffering from complete transverse myelitis in the dorsal or cervical regions cases have from time to time been published both in this country and abroad in confirmation of the view then advanced. In the *North American Review*, vol. ii., No. 8, such a case is recorded. The patient was a man aged fifty-five, who, after falling backwards over a railing, had complete motor and sensory paralysis of the limbs, with flaccidity and abolition of the deep reflexes. He died on the day after admission into hospital, and at the necropsy it was found that he had sustained a fracture at the level of the third cervical vertebra, and that the cord at this point was completely divided. Such a case, however, can hardly be adduced in support of the view advocated by Dr. Bastian, and long ago propounded by Dr. Hughlings Jackson, as those who take the opposite view allege that the shock accompanying any severe spinal injury not unfrequently causes abolition of reflexes which is only temporary. As the patient referred to died on the day after the injury was sustained, those holding the old view would maintain that the loss of knee-jerks was a transient phenomenon, and that they would have returned had the patient lived long enough. Nor was there any evidence that the grey matter in the lumbar region was uninjured, for the electrical condition of the muscles was not examined, and in the absence of such an examination the loss of knee-jerk proves nothing. It would be well if those who have opportunities of seeing and examining cases in which there is prolonged absence of knee-jerk after spinal injury would carefully test the reactions of the muscles both to the galvanic and faradaic currents, for much of the value of those cases, at least in reference to this point, will depend upon the condition of those reactions.

MEDICAL MISSIONS.

THE Edinburgh Medical Missionary Society has just entered on the fiftieth year of its existence. Previously to its foundation the idea of associating the healing art with evangelistic effort was not readily accepted, but now, as the Society's report reminds us, no department of missionary work has warmer friends or more liberal supporters, no method is recognised as more Christ-like, and no auxiliary to evangelistic effort in heathen lands is more valued. More than 140 medical missionaries with British qualifications, and at least an equal number from other countries—say, 300 in all—are now labouring in heathen and Mohammedan countries. The Edinburgh Society, whose aim is principally, though not entirely, to provide education for medical missionaries, is much in want of increased accommodation, the "Livingstone memorial," which is the main centre of the work, being now far too small. Fresh vigour has just been imported by the appointment of the Rev. Dr. Hoernle, who for many years has been a medical missionary in Persia, as assistant superintendent. An interesting feature of the Society's branches consists of an "Invalid's Auxiliary." It is found that many persons are so impressed during their own attacks of illness with the benefit of efficient medical aid that they are readily induced to assist in providing for their suffering fellow-creatures in the wilds of Africa, the crowded cities of China, and elsewhere.

FRENCH DIPLOMAS.

THE *officiat*, or second grade of practitioners in France, has long been threatened, and appears now to be on the point of extinction. The Chamber of Deputies some time since appointed a committee to examine and report upon the subject, and the result of its deliberations is entirely in favour of suppressing the *officiat*. The report presented to the Chamber states that there is every reason to expect that the number of doctors of medicine that will graduate in future will be quite sufficient for the needs of the population, especially if more protection is afforded by the law against the encroachments of quacks and of foreign practitioners. It is also pointed out that not only the great majority of medical men, but of the existing *officiers*, are in favour of the suppression of the lower grade. The number of candidates for it has of late decreased considerably, and since 1883 the course of study and the examinations have been raised to a level not very much inferior to those required for the doctorate. The report recommends that the existing *officiers* be admitted to the doctorate on passing two clinical examinations. It is greatly to be desired that the whole medical profession should possess the same diploma—viz., that of Doctor of Medicine—as is now (according to the committee) the case in Germany, Austria, Italy, Belgium, Holland, and Spain. Here the committee's information must be considerably at fault, for in Germany, Holland, and Spain practice is by no means confined to M.D.'s.

SUBCUTANEOUS RUPTURE OF AN AORTIC ANEURYSM.

IN the *Revue Générale de Clinique et Thérapeutique* of September there is an account of a case in which a thoracic aortic aneurysm proved fatal by rupture into the subcutaneous tissue of the chest wall. The case, which is described by Drs. Rauzier and Houel, is interesting on account of the rarity of this mode of termination. The patient, a woman of sixty years of age, was admitted to the Hôpital Saint-Eloi, under the care of Professor Grasset, on April 4th of this year, suffering from a large pulsatile tumour in the upper and anterior part of the right chest. The tumour had first appeared sixteen months before, when, somewhat suddenly, and on one occasion not long before admission, she had felt a sudden crack, as if something had broken in it, during a fit of coughing. She had led a dissipated life. At the time she came under care she was suffering much from dyspnœa, cough, and other symptoms of urgency, and the aneurysm pulsated strongly. The skin was not adherent to the aneurysm or altered in appearance, but slight pressure produced pain. The heart was enlarged, but the contractions were feeble; at the apex there was a loud systolic murmur. There was pulmonary œdema. The symptoms produced by the aneurysm improved under treatment, but the aneurysm itself continued to gradually increase in size. On the evening of June 2nd, after attempts to cough, the aneurysm gave way suddenly into the subcutaneous cellular tissue; the patient experienced a very painful tearing sensation and the tumour increased in size, the outline of the aneurysm being obscured by a fluid cushion which gradually extended towards the axilla. After the attack of syncope which followed the sudden pain the patient required morphia to relieve her suffering, which was intense, and accompanied with violent dyspnœa. Next day the axilla was filled by the extension of the swelling, which occupied the whole right mammary region; the radial pulse was absent on the right side in consequence of pressure on the axillary artery, whilst severe attacks of pain were felt in the branches of distribution of the brachial plexus. Next day there was jaundice, but the

signs of compression in the axilla had passed away, and the blood was spreading over the lateral aspect and towards the back of the right side of the chest. On the 5th, three days after the rupture of the aneurysm, the patient died. At the necropsy it was found that the aneurysm had developed from the ascending aorta, the part immediately above the valves was dilated and atheromatous, and an opening led from the middle of this to a small sac, placed on which was one of yet larger size, which, involving and eroding the ribs (one of which was broken), had ruptured into the subcutaneous tissue. In this tissue there was a large amount of blood, chiefly deposited as large clots. The heart was large and dilated, the mitral valves were diseased and incompetent, and the aortic valves thickened. The pericardium was adherent, as the result of old disease. The patient died in consequence of the escape of the large quantity of blood into the cellular tissue, not, as is more usual in such cases (as pointed out by the authors in their remarks), after sloughing of the skin over the escaped blood and hæmorrhage through the opening left by the giving way of the slough.

DEATH OF DR. H. J. BIGELOW.

WE regret to learn from the *Boston Medical and Surgical Journal* (Nov. 6th) that Dr. Henry Jacob Bigelow died on the 30th ult., at the age of seventy-two. Dr. Bigelow has long been a prominent figure in American Surgery, and made several valuable contributions to the science. Amongst these may be specially cited his writings upon anæsthesia and anæsthetics, upon dislocations of the hip-joint, and, foremost of all, his invention of litholapaxy, which, says our contemporary, "has revolutionised the treatment of stone in the bladder." From 1849 to 1882 he occupied the chair of Surgery at the Harvard University, and from 1846 to 1886 was surgeon to the Massachusetts General Hospital. He frequently visited this country, and on those occasions seldom failed to appear at the meetings of our London Medical Societies; and in 1881 he was elected an honorary member of the Clinical and Medical Societies. At its meeting on Nov. 1st the Faculty of Medicine of Harvard University recorded its appreciation of his services, and paid a warm tribute to his character and his talents.

THE HOUSING OF THE WORKING CLASSES ACT, 1890.

MR. MONTAGU WILLIAMS heard this week applications relating to fifty or sixty houses which were certified by Dr. Bate, medical officer of health of Bethnal-green, to be unfit for human habitation. The magistrate granted the summonses requiring the owners to show cause why the same should not be closed; but he asked whether any provision had been made for the occupants by obtaining for them other dwellings, and, on being answered in the negative, stated that he would inspect the houses himself. We must admit we do not clearly understand the position of the magistrate in this matter; the question of rehousing is not one for him to consider, beyond that it is within his discretion to order that for the cost of removal the occupants shall be paid a sum which can afterwards be recovered from the owners. Again, the intention of the magistrate to visit the houses if acted on would place him in the position of a witness, and, indeed, of a medical witness, as well as of a judge. He had before him the statutory certificate of the medical officer of health, and, unless there were conflict as to the medical evidence, we hold that this should have been sufficient. If magistrates begin to question the advisability of administering the Act, a point which concerns Parliament more than themselves, sanitary authorities will not be encouraged to institute proceedings.

ABERDEEN UNIVERSITY CLUB.

THE half-yearly annual dinner of the Aberdeen University Club, London, took place at the Holborn Restaurant on Wednesday, the 19th, Dr. Struthers, in the chair. In proposing the toast of the University the chairman spoke of the steady progress of the University in numbers, in finance, and in equipment. In 1864–5 there were 532 students in all faculties; in 1890 there are 909. Marischal College is now well equipped with laboratories, the medical bursaries have greatly increased, and the facilities for practical teaching are well abreast of the times. Sir Guyer Hunter, M.P., replied for the University. Mr. Jonathan Hutchinson replied for the guests present, and in a humorous speech admitted the good deeds of the London Scotchmen, who had not only endowed chairs &c. in the Northern University, but had also benefited English institutions, which benefits they were not ashamed to receive. Sir Andrew Clark proposed the health of the Chairman, his old friend and fellow-student, whom he described as an honest man who had the courage of his opinions, and one who had risked his popularity for the good of his students and of the University. He alluded to the fact that Dr. Struthers had not only built a museum, but had done what could be said of few men—had filled it with valuable material. Dr. Struthers briefly acknowledged the toast of his health.

DENTISTS AND THE SUNDAY OBSERVANCE ACT.

THE mean shifts that some patients will make in order to avoid paying fees was well instanced the other day at the Westminster County Court, where an action was tried in which a dentist sought to recover his fees for attending a Mr. Cohen. In the course of the case it was stated that a good deal of the work was done on a Sunday, and the defendant contended that that brought the plaintiff within the Sunday Observance Act, and therefore the claim could not be sustained. It was argued for the plaintiff that it had been held by the High Court that a farmer was not within the Act. The judge said the defence was a shabby one, and he was of opinion that a dentist did not come within the Act. The verdict was for the plaintiff for the amount claimed, with costs.

BABY FARMING IN POLAND.

IN our issue of March 1st we directed attention to the systematic practice of baby farming as recently carried on in Poland, whence with Warsaw as its centre it spread over the whole of Russia. Later intelligence has revealed the details of methodical cunning and cruelty which have enabled a band of miscreants charged with two hundred child murders to escape detection till within a very recent period. Four women and two men are said to have lived by this horrible business. Three of the former were related; of the men one was a gravedigger, the other a coffin maker. Infants entrusted to the women died in due course of starvation, and were buried periodically in batches of six together in one adult coffin. The confederacy was in fact an automatic trap for infant life of simple and precise construction, and, in the evident absence of effectual registration, very successful in its use. It seems remarkable that in a country where police inspection is carried to an extreme this multiplied and aggravated crime should have passed so long undiscovered. Official acuteness, it is clear, has been completely outwitted, and it is only reasonable to expect that the authorities will now use every means to expose the causes of so great a failure and to prevent its recurrence. We have spoken of registration, and it would certainly seem that as regards this matter, a stricter process is very desirable, both as regards the nurses and the children. Not the least remarkable feature about these

disclosures, however, is the leniency of the sentences inflicted on the perpetrators of so many crimes. The chief offender, it is said, will bear the light burden of three years' imprisonment, the others less in proportion. Here, too, there is evident need of reform. If this poor penalty is to be regarded as the whole cost of infanticide, we may well consider that the subject has never yet been seriously treated by Russian legislators.

DECLINE OF SMALL-POX MORTALITY IN ENGLAND.

THE recently issued quarterly return of the Registrar-General reports that during the three months ending with September last, only one death from small-pox was registered in England and Wales, this being the lowest quarterly number on record. It is stated that this was the death of a male aged twenty-six years, who, having been admitted to the Greenwich Workhouse, was afterwards transferred to the Metropolitan Asylum Hospital ship *Atlas* at Dartford, where the death occurred. During the same period 85 deaths from small-pox were recorded in Venice, 53 in St. Petersburg, 18 in Paris, 11 in Vienna, 10 in Brussels, 7 in Turin, 6 in Prague, and a large number in Madrid, which city, however, does not furnish official weekly returns of mortality like most of the other European capitals. Returns from Calcutta, Bombay, and Madras show considerable small-pox prevalence in each of those cities during the quarter under notice. Three deaths from this disease were also reported in Alexandria and in Cairo.

LONDON WATER-SUPPLY.

LAST Monday a meeting was held to consider the constitution of the authority to take over the undertakings of the London water companies. The meeting was attended by representatives of local authorities in Middlesex, Essex, Herts, Surrey, and Kent, and the chair was taken by Sir H. Selwin Ibbetson, M.P. Resolutions were passed protesting against exclusion from representation upon the proposed water authority of areas beyond the limit of the county of London, but receiving their water-supplies from the London companies. Mr. W. B. Whittingham, chairman of the local board at Walthamstow, pointed out that one-fifth of the supply given by the companies was to a population of one million and a quarter outside the metropolitan area, and it was resolved to ask Mr. Ritchie to receive a deputation on the subject. It is not likely that this demand will meet with opposition, but it has further been proposed that the area represented should include the whole of the watersheds of the Thames and Lea. Under these circumstances, it would be interesting to know whether it is proposed to extend the representation as far as Wales, in the event of water being obtained from that part of the country. Evidently London water-supply will raise some curious questions for the House of Commons to settle.

CHOLERA INTELLIGENCE.

THE prevalence of cholera in Spain continues, notwithstanding the cessation of telegraphic information as to its extent. The disease still prevails at a number of centres in the province of Seville—as, for example, at Estapa and Guilena; indeed, in the latter place 95 attacks and 25 deaths occurred during two days of last week. In Murcia 16 deaths have recently taken place, and five villages in this province are also reported to be infected. The disease is also maintained in the province of Alicante, where eight villages along the course of the Segura river have been attacked. In Valencia, on the contrary, improvement is maintained. From Morocco comes news to the effect that, subject to a clean bill of health of ten days' duration, quarantine will no longer be enforced against arrivals from Cadiz and Malaga. Cholera is also still extending in Syria. From Aleppo the disease spread to Hamah, and it has since reached Hems (Emesa); and some fear is naturally expressed as to the possibility of a further spread to Damascus, Beyrouth, and Tripoli. Between Nov. 1st and 5th, 210 attacks, with 54 deaths, occurred at Hems.

POLICE MEDICAL ALLOWANCES IN KENT.

WE cannot congratulate the county authorities of Kent on their estimate of the value of medical services to their police. They have revoked the former scale of allowances and substituted the following:—

The sum of 1*s.* shall be allowed for each visit within a distance of one mile of the residence of the medical practitioner.
The sum of 2*s* shall be allowed for each visit for a distance exceeding one mile and not exceeding two miles of the residence as aforesaid.
And that the sum of 1*s.* for every mile or part thereof beyond two miles of the residence of the medical practitioner shall be allowed for each such visit.
That for mixtures supplied by the said medical practitioners the sum of not exceeding 1*s.* each shall be allowed.

A shilling for a visit seems rather an imitation of the scale of a cheap dispensary. It is a fault, too, of the scheme that it tempts the medical man to eke out his scanty pay by the multiplication of mixtures which the police authorities rate at the same value as a visit. We urge on the practitioners of the district to make a united and earnest protest on this subject before accepting the scale. We cannot doubt that the authority will agree to more dignified and adequate terms.

THE UNIVERSITY OF LONDON.

WITH the resumption of the negotiations between the University of London, the Royal Colleges, and the provincial teaching colleges, the difficulties of arriving at a settlement that would include a real teaching side of the University are evidently increasing rather than diminishing. It is doubtful whether any scheme can be drawn up by the Senate which will remove these difficulties to the satisfaction of the advocates of a teaching university for London, or of those who are desirous that an M.D. degree should be obtainable on fair terms by the average London medical student.

SCARLET FEVER IN LONDON.

THE admissions of fever patients into the hospitals of the Metropolitan Asylums Board for the fortnight ended Nov. 13th, amounting to 464, show a diminution of 68 as compared with the previous return. But the cases of scarlet fever notified to the managers show an increase of 32 during the fortnight ended Nov. 8th, being still, however, 36 below those notified in the first half of October. The fluctuation in these numbers may possibly be, to some extent, a result of the neglect of notification, but the returns of admissions to the hospitals are liable to no such disturbing cause; they may, therefore, probably be accepted as evidence of the abatement of the epidemic. The number of cases of scarlet fever under treatment in the hospitals on Nov. 13th was 2068, of which 760 were convalescents in the Northern and Gore Farm Hospitals. On the same date there were 160 cases of diphtheria, of which 25 were convalescents in the Northern Hospital. There were 206 beds available for scarlatinal and 35 for diphtheritic cases. As the discharges should now be increasing considerably there seems reason to hope that the great pressure for accommodation in the hospitals of the Board may be past.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—Dr. C. Posner has been recognised as *privat docent* in Medicine.

Cracow.—Dr. Kowalski, a military surgeon, will probably be appointed to the newly established Professorship of Hygiene.

Halle.—Dr. Paul Bunge has been promoted to an Extraordinary Professorship of Ophthalmology.

Heidelberg.—Dr. Dinkler has been recognised as *privat docent* in Medicine.

Toulouse.—Dr. Caubet has been appointed Dean of the Combined Faculty of Medicine and Pharmacy, which faculty, as a matter of fact, does not yet exist, though all the buildings are complete. The appointment of a dean is made at the present moment in order to give the faculty that is just about to be created a *locus standi* with specia reference to municipal affairs. The commencement of a University with four faculties may thus be considered to be an officially recognised fact.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Wähner, Director of the Lunatic Asylum at Wehlau. Dr. A. Mousson, Emeritus Professor of Physics at the University at Zurich. Dr. M. Nowicki, Professor of Zoology in the University of Cracow.

THE "Red Cross of Italy" adds steadily to its efficiency. On the 12th ult. its Genoese section was called out to mobilisation exercise. The two hospitals equipped by it, with a *personnel* of forty men, were first sent on by rail to Busala (on the Genoa-Novara line); then, in full military order, the members made a day's march on the road to Casella, and there encamped on a war footing with the requisite medico-military stores. On the 15th they struck their tents and marched along the Alpine road, threading the pass between Giano and Pontedecimo, their stores conveyed by twenty-five mules. The return journey was made by rail. A delegate from the Central Directory at Rome and two general officers took part in the exercise.

AT a special meeting of the Medical Committee of the Brompton Consumption Hospital, held Nov. 20th, the following resolution was unanimously passed: "That the medical officers of this hospital, being desirous to promote in every way the objects for which this institution was founded, will be prepared to take steps to investigate the treatment of consumption as announced by Dr. Koch as soon as the nature of the remedy is before the profession."

THE outbreak of typhoid fever at Arundel has assumed a serious aspect. The cases of the disease are stated to be very numerous, and several deaths are reported.

MR. W. GIBSON BOTT, L.R.C.P. Edin., M.R.C.S., has been elected chairman of the Sanitary and Special Purposes Committee of the London County Council.

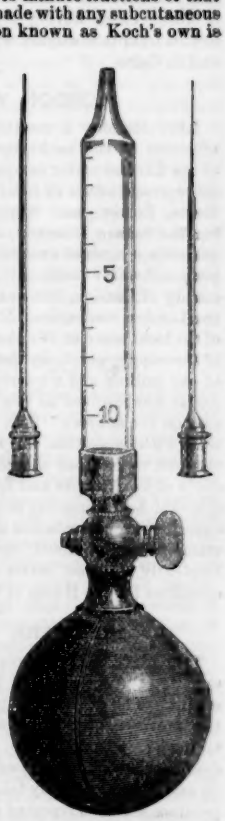
MIDWIVES' REGISTRATION BILL.—At the meeting of the East Sussex Medico-Chirurgical Society, held Nov. 4th, the following resolution was passed:—"This meeting of the East Sussex Medico-Chirurgical Society is strongly of opinion that the legislation proposed in the Midwives' Registration Bill amended is entirely unnecessary, and unanimously protests against the Bill, principally on the ground that no person can be competent to attend women in their confinements who does not possess a registered medical diploma."

PROFESSOR KOCH'S REMEDY FOR TUBERCULOSIS.

(FROM OUR SPECIAL COMMISSIONER.)

THE sensation created by the announcement made by Koch at the International Medical Congress, that he had discovered a method of curing tuberculosis, may be said to have reached a climax on Thursday last, Nov. 13th, when he published a further and more detailed communication on the same subject.[1] This is already in the hands of your readers. It cannot be denied that a certain slight amount of disappointment was felt when it was discovered that this communication left the composition, the very nature of the "curative agent," still secret, and that, so far as any official information goes, it may remain secret. But there are other valuable additions to our knowledge afforded by this communication, and when we take these in conjunction with the practical results obtained by von Bergmann, Fraenzel, Oberstabsarzt Köhler, Levy, and Brieger, they give a substantial amount of fact with which to deal.

The liquid, whatever be its nature, is, in physical properties, a brown, viscid fluid, somewhat like a dilute solution of iodine in colour, and about the consistence of thinnish syrup. It is supplied to hospitals, for clinical purposes, in a white glass bottle (containing about 40 or 50 grms.), which is corked. One gramme is added to 100 grammes of sterilised distilled water for use, and the doses vary from one gramme of this $\frac{1}{10}$ dilution to minute fractions of that quantity. The injection may be made with any subcutaneous syringe, but here the modification known as Koch's own is used. The fluids may be injected into any part of the body. But Koch suggests that under the skin between the scapulæ is the best place, as the skin is very little sensitive there. No reaction occurs at the place of inoculation, and it goes without saying that the injection is made with antiseptic precautions. The patient experiences no effects whatever for some time after the inoculation, but at the end of about four hours the temperature begins to rise rapidly, accompanied usually with rigors, as is the case almost always when there is a rapid increase of the bodily temperature. There is also vomiting. The temperature may rise even to 41·2° C. (106·2° F.). This tremendous rise is reached in about two hours from the commencement of the febrile reaction. The fall of the temperature is also rapid as a rule, but the speed of the fall depends on the extent of the tissue affected by the tubercular matter. According to Koch, the injected liquid does not kill the bacilli themselves, but only the tissue which has been recently modified by the vital action of the bacilli. If the tissue thus affected be extensive, the temperature will remain high for a much longer time than if only a small amount be affected. Where the tubercular affection is limited, as in lupus, the temperature will reach its normal level at the end of twenty-four hours, and the patient will feel free from malaise. Patients suffering from tubercular affections of the joints, larynx, &c., even felt better at the end of the period of reaction than they did before the inoculation was made. In the case of tuber-



[1] Weitere Mittheilungen über ein Heilmittel gegen Tuberculose, Deutsche Medicinische Wochenschrift, Nov. 13th, 1890.

cular glands, the rise of temperature is, as a rule, delayed considerably, and may not reach its maximum for about twenty-four hours. While the temperature is thus rising the pulse also corresponds, increasing to 120 or even 160 beats per minute; vomiting frequently occurs at the acme of the fever. The rapidity of the pulse diminishes along with the fall in temperature. In some cases the reaction becomes quite alarming, with dyspnœa, and in one case of lupus the strongest restoratives had to be employed to bring the patient round. Simultaneously with these phenomena of general constitutional affection there occur certain very marked and characteristic symptoms in all parts of the body, under the influence of recent tubercular virus. The local swelling begins earlier than the rise of temperature. Old cheesy deposits present in a part do not lead to the production of these local phenomena after inoculation. Such cheesy matter is to be regarded as already necrosed; and as Koch explains that only living tissue is affected by his inoculation material, we understand why local reaction does not occur where cheesy matter alone is present. The *local* phenomena consist in general of swelling of the affected parts, which may be considerable, more or less redness, and in some cases lessened pain.

Lupus is one of the most interesting and instructive of the forms of tubercular disease which have been treated up to the present. It is indeed to Koch that we are indebted for the knowledge that lupus is really tuberculosis of the skin. In cases of this disease the phenomena are visible, and we can judge of the various changes without depending largely on the subjective evidence of the patient.

Let us therefore take as a typical case of treatment one of lupus affecting the nose and face, several of which have been under treatment in Berlin during the last five or six weeks. With the rise of temperature the patient is already suffering from some malaise, and if asked whether he is ill, will answer that he has some headache and a feeling of "tightness" or tension in the affected part. The part has become slightly redder and of a brighter colour, and swollen. These changes keep on increasing in intensity until the reaction has reached its height. The rapidity and extent of the swelling are almost incredible in some cases. The nose may attain twice or thrice its original size, the cheeks become swollen, and it may be quite impossible to open the eyes. The extent of the swelling is to be taken as significant of the extent of the tubercular disease at the place affected. This is frequently far more extensive than could be concluded from the mere extent of the actual lupus ulcer or of the tissue which presents the appearance of disease from the existence of cicatrices. When cases of lupus recur, after a lupus ulcer has been healed, the fresh outbreak of disease occurs only in rare cases in the cicatrix itself, but, as a rule, outside it, around its border, in tissue which to all appearance was healthy. The recurrence of the disease in this tissue must be taken to indicate that it was not healthy, as it seemed to be, but that it really contained tubercle bacilli in quantities too small to produce changes recognisable by the surgeon in the living subject, but sufficient to lead to a fresh outbreak of lupus in the course of time. Some ten or twelve hours later the tubercular nodules in the affected area, those which were distinctly visible to the eye before inoculation, and also others which were not, become much more distinct, they being the portions specially and selectively influenced by the inoculated liquid. This is an illustration of the fact mentioned by Koch in his communication, that it is the *tissues*, and not the bacilli in them, which are affected by the inoculation.

A very characteristic and peculiar feature is the border, varying from a quarter to a third of an inch in width, which becomes visible (after inoculation) around the affected part, where the scabs begin to form. This margin is whitish in colour, apparently owing to œdema, and outside it there lies an area of skin which presents all the characteristic appearances of erysipelas, except the usual prominence of the papillæ of the skin. It is puffed and elevated above the tissue outside its own margin. Sometimes skin presenting the same appearance may be traced proceeding in narrow lines outside this erysipeloid area, along paths which may be regarded as the course of the lymphatics. These lymphatics may reasonably be supposed to contain tubercular material.

Later on, the inoculated liquid having had time to emphasise its local action, the diseased surface becomes covered with scabs, arising no doubt from exudation, as necrosis of the tubercular tissue proceeds. These scabs are very like amber in appearance, and, like it, may be quite light or dark. They gradually turn dark brown. They are very adherent, but their removal may be accelerated by soaking them with oil, and after they have fallen off the tissue is found marvellously changed in appearance and character. Instead of the tense, shiny, brownish-red, unhealthy-looking tissue, with its nodules shining through, the skin appears tender, young, rose-coloured, and uniform in texture, soft and velvety to the touch.

That such results should be obtained at the end of a few days, and through the medium of some half-dozen or so subcutaneous painless inoculations (in slight cases only the first having severe reaction), will appear astounding and most gratifying. When cases have reached this stage they are regarded as cured, as they do not show any reaction to further inoculation.

In a lecture on the result of his treatment of tuberculosis by Koch's method, given by Professor von Bergmann last Sunday, he expressed himself enthusiastically as to the favourable results of the treatment. But the enthusiasm of the audience was somewhat dulled by the remarks of Oberstabsarzt Köhler at the end of the lecture. He has had longer experience than von Bergmann, having carried out Koch's method of treatment at the Charité Hospital here for several weeks longer than Professor von Bergmann. He states that he has already seen a case of recurrence of lupus among his own patients at the Charité.

In tuberculosis of internal organs, joints, bones, lymphatics, &c., it is reasonable to assume that processes resulting from the inoculation are similar in their main features to those which occur in visible tuberculosis (lupus). The reactionary temperature and accompanying symptoms are the same as in the above described typical cases of lupus. In the case of tubercular disease of the knee-joint and elbow, for example, there is local as well as general increase of rise in temperature; there is increased tenderness generally, as is more particularly evidenced by the exaggeration of the abnormal position of the affected limb.

In pulmonary tuberculosis also there is an exaggeration of the local symptoms, showing the local action of the remedy, evidenced by increased cough, dyspnœa, and increased expectoration, all of which become subsequently alleviated.

In one case of laryngeal tuberculosis, in which the patient had wholly lost his voice, owing to the existence of considerable ulcers, quite solid pieces were coughed up, and the patient has already recovered an audible voice and feels immensely improved in general health.

Quite apart from the therapeutic value of Koch's discovery, his method offers other advantages. Even if future enlarged experience should prove that its value as a curative agent has been over-estimated to-day, there remains its undeniable and immense advantage as a means of diagnosis for the existence of fresh tubercular tissue in the body, wherever or in whatever form it may be.

There is a pretty definite quantity of the liquid which, if inoculated into a healthy person, produces no reaction. If, however, this dose, when injected, does produce reaction, this in itself is an indication of the existence of tubercular matter in that individual. This, which we may term the "quantitative indicator," is estimated by Koch to be from 0·001 to 0·002 gramme.

A most remarkable illustration of the diagnostic value of the liquid is the case of a woman who was put under Koch's treatment for facial lupus. After inoculation, she showed the ordinary reaction, as mentioned above But during the progress of the case she complained that in addition to the local facial symptoms she was suffering from pain in both wrists. On one of them it was noticed that there was an old cicatrix due to a burn, while the other one had been injured. The cicatrix swelled, and showed local reaction on the face, the joints exhibiting the symptoms of tubercular joints. These local symptoms in the wrists have subsided, with those of the lupus, and Professor von Bergmann believes there was tubercular affection of both joints.

He drew attention to the advantage of being able, by the injection of Koch's fluid, to diagnose whether a serious laryngeal affection was carcinomatous (or syphilitic) or tubercular. Whereas he had formerly divided the larynx on suspicion that it was affected with carcinoma, he would in future always apply as a preliminary Koch's test for the existence of tuberculosis.

Note.—The brief notice given by Koch in his address[1] at

[1] Translated by Dr. Hime, and published by Baillière, Tindall, and Cox, London.

the Medical Congress, of the results of his investigations as to the cure of tuberculosis, gave little idea of the extent of his experiments in that direction. He did not make it distinctly understood that animals may be made refractory to tubercle by treatment with his liquid before they have been inoculated with tubercle. There is reason to believe that this is the case. He did state in effect, at the Congress, that animals infected with tubercle had been cured. With his habitual caution he did not use the word "cure," the expression used by him being, "At last I have found substances which are capable of checking this growth, not only in the test-tube, but also in the animal."

Professors Fraenzel and Runkwitz, who have been engaged in experiments with Koch's lymph, and have inoculated many patients since September last, have published some of their results. They have found that in healthy persons a small injection produces no reaction whatever. In four cases of advanced phthisis, however, they found that the temperature rose to 39° C. (102·2° F.); but they do not consider that the progress of the disease was materially checked by the inoculations. In the necropsies of two cases in which the inoculated patients succumbed to phthisis the lungs presented no signs of healing. From investigation of eight cases in which the disease was less advanced the Professors noted that the number of bacilli was markedly diminished after inoculation; sometimes indeed they completely disappeared. Their conformation was also found to be changed as a result of the inoculation, many of them becoming shorter and thinner, others presenting a dumb-bell appearance. The fever and night sweats of phthisis ceased, and the cough became greatly reduced. There was also a marked improvement in the appetite and in body weight. These observers are of opinion that the debilitated bacilli may ultimately revive and reinfect the tissues. Regarding the safety of the operation, Dr. Levy reports a case in which one patient remained unconscious for thirty-six hours after inoculation. Professors Koehler and Westphal announce as the result of their observation that non-tuberculous patients after inoculation suffer from headache and sleeplessness, the temperature sometimes rising to 38·6° C., accompanied with marked pain in the limbs and loss of appetite. Non-tuberculous wounds and cicatrices, on the other hand, remain unaffected. Many cases of phthisis have undoubtedly improved under this treatment.

To the Editors of THE LANCET.

SIRS,—Professor Koch has requested us to demonstrate in London his method of treatment of tuberculosis, and has supplied us with a small quantity of fluid for this purpose. Due notice will be given of the time and place of the demonstration. We may state that as the amount of fluid at present available is very small, Professor Koch has only been able to supply us with a quantity sufficient for the purposes of this demonstration.

We are, Sirs, yours truly,

G. A. HERON.

Berlin, Nov. 17th, 1890. W. WATSON CHEYNE.

To the Editors of THE LANCET.

SIRS,—Mr. Heinemann informs me that a London medical journal has published a translation of Dr. Koch's report on his discovery of the cure of consumption, and it seems that this has also been copied by some of the daily journals. At his request I send you this note, which I hope you will publish, to say that he will issue the only authorised version of Dr. Koch's report, for which he has for some time past made arrangements with me.

I am, Sirs, yours obediently,

GEORG THIEME,

Publisher of the "Deutschen Medicinischen Wochenschrift."

Leipzig, Nov. 17th, 1890.

DEMONSTRATION OF CASES TREATED BY KOCH'S ANTI-TUBERCULAR LIQUID.

BY PROF. VON BERGMANN, BERLIN.

(FROM OUR SPECIAL COMMISSIONER.)

ON Sunday evening last Professor von Bergmann delivered in the lecture theatre at the Clinical Hospital in Berlin a lecture on this subject. The lecture naturally created great curiosity and excitement on the part of all who knew of it. Professor von Bergmann has been using the liquid for some weeks, but not so long as some members of the staff of the Charité Hospital. Some of the most eminent medical men in Germany were present, among them von Ziemssen (Munich), Eberth (Halle), Helferlich (Greifswald), Professor Bramann (Halle), Geh. Rath Hahn; Geh. Rath Olshausen (Berlin), Thiersch (Leipzig), Israel (Berlin), Oberstalsarzt Kohler, and others. Dr. Hime of Bradford and Mr. Malcolm Morris, Dr. Radcliffe Crocker, Dr. G. Heron, and Mr. Watson Cheyne of London, were also present. Kultus Minister von Gossler, who has taken a great interest in the whole matter, and has frequent interviews with Koch, also attended the lecture.

In a few introductory remarks the lecturer said they would all regret the absence of the great man to whom all the credit was due, but it was quite in accordance with his retiring nature not to wish to be present when his name would be so frequently mentioned. In the course of the lecture over forty patients were exhibited, most of whom were wheeled into the theatre in beds. Among them was the English patient Edgar Neal. The patients were suffering, or had previously been suffering, but were now regarded as practically cured, from various forms of tuberculosis affecting the skin (lupus), glands, joints, bones, lymphatics and internal organs. The operator was Dr. Pfühl, who, being an army surgeon, was present in uniform. It was mentioned also by the lecturer with great satisfaction that Minister von Gossler had exerted himself to secure to Germany the first fruits of Koch's great work, and that the liquid should be first used in the Fatherland. No less than thirteen cases of lupus were exhibited. This disease was explained to be particularly interesting as a field of observation, inasmuch as being an external and visible manifestation of tubercular mischief, the changes were more readily noticed by a spectator.

Five of these cases were shown in succession, as having received their first inoculation in the morning, and were seen to be experiencing in various degrees the reaction caused by the lymph. They had been inoculated with 1 centigramme of a 1 per cent. solution of the mother liquid.

The most striking of the early after-effects of the inoculation was the almost invariable occurrence of fever of a regular, typical character, accompanied by rigors. One patient, whose temperature at 8 A.M. (before the inoculation) was 36·2° C. (97·2° F.), had at 8 P.M. a temperature of 38·6° C. (101·5° F.). Vomiting also was one of the characteristic phenomena of this reactive fever. In all cases in which tuberculous disease is present this reaction occurs after the injection of Koch's fluid.

The first case shown was lupus of the face, affecting the right side of the nose and the cheek. In the morning, prior to the inoculation, the face was pale and not swollen, but when exhibited there was considerable redness, easily apparent around the nose, extending beyond the right side, and involving a great portion of the left side of the cheek.

In the second instance, a boy of fourteen was shown suffering from ulcerating lupus of the nose, affecting the left ala (which was considerably destroyed), the nasal septum, and the right ala to a less extent. There was no swelling or redness in the morning. At 8 P.M. the patient was seen to be suffering from very severe reaction, his temperature having during twelve hours risen from 36·5° C. (97·7° F.) to 41° C. (105·8° F.) at 8 o'clock in the evening. It was characteristic that in young cases the reaction was most severe. This boy had severe rigors as the reaction became established. It was noteworthy that not only did the nose and face, the visibly affected parts, actively participate in the reaction, but a bright redness of the skin under the chin seemed to indicate to all present the tubercular implication of several of the sub-mental glands. The lips, cheeks, and lower eyelids were much swollen.

The third case was that of a young man, twenty years of age, suffering from superficial lupus of the face of long duration. His face was red and swollen from the reaction. A spot which had cicatrised showed no tubercular reaction to the injected fluid. This patient's temperature displayed a steady ascent from early morning, when it was 36·4° C., until, at 8 o'clock in the evening, it was 41·2° C. The temperature was taken every two hours; the above are observations made at selected hours. Commencing the inoculation of the patient with the low temperature named above in the morning, rigors were observed to occur, and the temperature rose to 36·8° C. The highest point, 41·2° C. (106·2° F.), being reached in twelve hours, showed what tremendous changes may occur in that space of time.

The next case was that of a woman with superficial lupus of the right forearm, involving nearly the whole of its cir-

cumference. It exhibited the peculiar white zone surrounding the affected part always present in cases of marked reaction.

The fifth case came from London. The patient was a young man twenty-two years of age, and suffering from lupus of the nose and palate, which exhibited very characteristic appearances. He, like the preceding cases, had been inoculated for the first time in the morning, and like them he exhibited severe symptoms of reaction. His temperature in the morning, before inoculation, was 36·7° C.; in the early afternoon it rose to 38·1° C.; and in the evening it rose to 40·2° C. (104° F.). On the next day (Monday) the patient was already recovering from the attack of fever. His temperature had fallen to 37·6° C. (99·7° F.), nearly five degrees, and he was feeling quite free from malaise and taking food well. He expressed himself as very happy, and grateful for the way he had been treated. In whatever part of the body tubercular matter had been deposited there were exhibited symptoms of inflammation. This must, no doubt, be taken with the reservation that it refers to living tissue thus affected.

The next case was that of a child suffering from lupus of right cheek of eleven years' standing. Both knee-joints were also affected with tubercle, and there were some spots of disease on the legs also. This child was inoculated before the assembled medical men by Dr. Pfühl.

A child of thirteen was next shown, which had been suffering for three years from lupus of the nose, a large part of the left side being already destroyed, and the disease had become very extensive. This child was inoculated with only one-half the full dose.

The next case was a poor, wretched-looking, deformed lad, eighteen years old, and who for fifteen years had been suffering from tuberculosis of various parts. He had had abscesses opened in many places, and for several years had been under Professor Volkmann at Halle for the surgical treatment of his various manifestations of tuberculosis. He was inoculated with Koch's liquid for distinct facial lupus, and at the same time for pulmonary tuberculosis.

A young woman of twenty-three followed, with tubercular disease of left ala of nose, left angle of mouth, and a spot on her right cheek. The action of the inoculated liquid would quickly show whether the latter were tubercular or not, because the specific local reaction would be established only in the event of its being of a tubercular nature. The patient was inoculated in the back, in the same way as the former cases, in the presence of the medical men.

Another young woman of twenty-three was the next patient. She had been suffering for six years from lupus in various parts about the face, particularly under the right ear.

The eleventh case was a patient aged twenty-eight, who had suffered for four years, and had already received five injections. During the reaction following the first inoculation his temperature had run up from 37°C. to 40°C. The first inoculation took place on Nov. 7. On Nov. 11th his temperature was 38·4°, and on the 12th it was 39°C.; so that the reaction was not equal to what it had been. He was inoculated before the audience. According to the recommendation the inoculations were to be continued from time to time, until they caused no reaction. The patient had the whole of his nose affected by lupus and both cheeks, a large number of nodules being perceptible in both. Already the skin, since the scales had fallen off, was found soft and more normal in texture. After the first inoculation the patient's face and lips were greatly swollen, but this was much less marked after the subsequent inoculations.

The demonstrator said that attention should be specially directed to the remarkable fact that the local reactive phenomena were manifested, as redness, swelling, &c., after inoculation in places which did not present any appearance of disease before inoculation. These local symptoms are to be taken as proof of the reacting parts being infected by tubercle, although they did not appear so to the eye, nor suggest their being diseased when palpated.

The next case, that of a young man, was a very interesting one, and had been under treatment for some time. It was a case of tuberculosis of the palate. The familiar appearance of disease had vanished, and the palate was now clean, soft, and well skimmed over, and without one of the ulcers which were previously present. After the first inoculation this patient exhibited marked reaction. After mall inoculation the temperature rose to 40° C.; after the second and third inoculation the reaction grew less and less; and after the third, when he received a double quantity, the rise was only from 37·1° to 37·7° (or by 1·06° F.).

The next case was a girl, who was inoculated on Nov. 6th, and showed considerable reaction. She had not been inoculated since.

The case of the woman who followed was one of very pronounced lupus, and presented several important points. Her treatment had begun some little time ago. She had lupus of the face, and after inoculation she showed marked reaction, her face, lips, and ears swelled considerably, her eyes becoming invisible. Many distinct nodules were present also. These were now mostly all gone. Crusts and scabs had formed over the reacting parts, which had fallen off and showed vast improvement in the affected parts. The patient was a washerwoman, and in the performance of her work had burned herself on her right wrist, a cicatrix existing at the site of the injury. After she had been inoculated for the facial disease, this part became red and swollen, a proof that it was affected with tubercle. Pain in the course of the left flexor longus pollicis set in, as well as in one knee, from which it is to be concluded that these parts too were affected with tubercular disease, though up to the time of inoculation this fact was not suspected. On the other hand, it should be borne in mind that cicatricial tissue, formed at the site of a tubercular ulcer, may show no reaction whatever after inoculation, indicating thus its freedom from tubercular disease, according to the theory expounded by Koch and the lecturer. Dr. von Bergmann next drew attention to what might be called control experiments in the inoculation of the liquid in healthy persons. These showed no reaction to small doses. As a typical case he mentioned that a strong, stout man suffering from a growth in the left cheek had consulted many surgeons, who differed in opinion as to its exact character. It was supposed to be carcinoma by most of those who saw it. Koch and Pfühl had inoculated the patient with the anti-tubercular liquid, with the result that the specific reaction occurred with rise of temperature to over 40°C., since which the patient had improved, and he was now free from fever. The local redness resulting from the inoculation is very similar to what Fehleisen has described after the inoculation of erysipelas in parts affected with lupus. Two zones are to be seen clearly marked around the affected part—an interior whitish ring round the nodules, and outside this a red area. Once the lecturer had a case which presented the remarkable phenomena of showing no febrile reaction to assist the doubtful diagnosis.

As the first set of cases were confined mainly to lupus, a second set exhibited consisted of three cases of tubercular affection of lymphatic glands of the neck.

A girl with characteristic scrofulous appearance, and a mass of enlarged glands of the neck, under left ear, was inoculated with one centigram of the usual dilution of the mother liquid. Her temperature rose from 37·1° to 40·0°, and she had rigors and vomiting.

A little girl with similar affection and blephar-adenitis was inoculated before the audience.

The next patient had received five inoculations since Nov. 6th. She had less and less reaction after each. This patient exhibited very remarkable phenomena of a papulous roseolar exanthem over the shoulders after inoculation.

Eighteen cases of tubercular disease of the joints and bones were also exhibited, mostly affecting the hip, knee, and ankle. Some of these had already received several inoculations. Besides the general reaction common to all cases after inoculation with Koch's liquid, these cases showed, after several inoculations, diminution of swelling and pain and increased mobility. One child with inflammatory infection of the knee-joint exhibited no reaction after inoculation. The conclusion to be drawn was that, assuming old tubercular deposit to have existed, it must have become encapsuled and lost its virulence. In this case he had not been content with the inoculation alone, but as specific reaction had not occurred, he had resorted to the usual surgical procedure and cut down and removed the diseased tissues.

Next were exhibited four cases of laryngeal tuberculosis, one of which had been several times inoculated. During the treatment of this case a tumour beneath the vocal cords became neurotic and was coughed up. When microscopically examined nt cells were found. The lecturer dwelt on

the value of Koch's inoculation for differential diagnosis of carcinoma and tuberculosis of larynx, which are often so difficult to distinguish. In the case of a child with coxitis, accompanied by an abscess of long-standing, inoculation of four milligrammes had been used. After the exhibition of this immense number of patients, which occupied about an hour and a half, the lecturer concluded by asking the meeting to express by acclamation its interest in what they had witnessed, and their congratulations to Koch for his discovery. This was most cordially done. It may be mentioned *en passant* that on mention of Koch's name during the lecture, an occasion which an English audience would have taken the opportunity to applaud, the German audience showed no demonstration whatever, not from want of enthusiastic admiration of their distinguished countryman, but owing to difference of custom.

THE ITALIAN MEDICAL ASSOCIATION.

(*Concluded from page 991.*)

THE sitting of Oct. 21st opened with Professor E. de Renzi's report on the Pathology of the Blood, which summarised the researches hitherto made on the influence exerted, chiefly in infective maladies, by the physico-chemical conditions of the circulation. He dwelt at considerable length on the antiseptic and bactericide action of the blood, illustrating his views with experiments of his own. He showed with much fulness of detail how important for diagnosis in the present and also in the future bacteriological examination of the blood must be, enlarging chiefly on the splendid results obtained by such examination in malaria. Therapeutics, moreover, cannot fail to profit by such researches, in proof of which he cited the intra-venous injection of quinine proposed by Baccelli, as forming a brilliant prelude to their practical application.

He was followed by Professor Maragliano, who began by describing the want of certainty in our knowledge of the blood. He then gave a vivid sketch of the life and functions of the "red globule," indicating its relations with the hæmatopoëtic organs, whether in normal or in pathological conditions, and concluded this section of his paper by dwelling on the anatomical alterations of the globules. Under this head he illustrated certain special alterations, partial or total, of the globules, the alterations consisting in contractile or amœboid movements. He next proceeded to describe the different chemical reactions of the red globule when in its normal state, or when endowed with contractility. From this exposition he passed to certain features — anatomico-pathological and semeiological—in relation to diseases of the blood, particularly to malaria. Having set forth the result of some experiments on the action of the serum, normal and pathological, on the "hæmatiæ," he concluded by hazarding the hypothesis that the various kinds of anæmia have as their cause abnormal conditions of the sanguineous serum.

The paper was a very elaborate one, and listened to with great attention, the more critical of the audience reserving their remarks on it till they could examine it carefully in its printed form.

The discussion which followed took account of minor questions arising out of Professor Maragliano's paper, Professor Feletti indicating a method of colouration by which he could distinguish the malarial parasites from the degenerative forms of the blood; while Professor Lucatello illustrated the microbicide power of the sanguineous serum, and claimed priority for his own researches and conclusions as to the activity of the serum in cases of disease.—Professors de Renzi and Maragliano having replied to such objections as had been made to their positions, the Association reassembled in the afternoon to hear Professor Marchiafava's "Observations on Pernicious Fever," particularly when the parasite "sporulates itself" (*si sporula*) rapidly in the organs and not in the circulation. Among the forms of "perniciosa" accompanied by symptoms attributable to the central nervous system, special importance is claimed by the varieties of bulbar paralysis. He had conducted investigations on a case of the "bulbar pernicious" type which had terminated fatally at the Santo Spirito Hospital. In the bulb he found many *plasmodi*, in segmentation, in the richly hyperæmic capillary network of the nuclei of the hypoglossal and facial nerves, with disturbance of the circulation and necrosis of the nervine elements.

Professor Feletti then explained a new method of his for colouring preparations of fresh blood, but Professor Maragliano held that the method in question was not capable of being so applied. Dr. Gualdi, moreover, maintained that the method could not yield results superior to those obtainable by the Celli-Guarnieri method. If fresh blood had to be coloured, one would require to colour it in the bloodvessels—a process unattainable on the human body. Otherwise, he believed it necessary to fix the preparations of blood with alcohol and ether, according to Nikikoroff, and then to colour them with eosin and blue methylene.

Several interesting papers followed on malaria, particularly that of Dr. Dionisi on the numerical changes of the red and white globules in connexion with the malarial parasite; and after Dr. Federici's observations, tending to show that clysters of blood serum augment the globular richness of the blood, while clysters of blood itself augment the colouring matter of the blood, nothing of special note occurred, till the sitting was concluded for the day.

On the 22nd the most difficult of the three subjects prescribed for discussion by the Association—the various kinds of polyneuritis—was taken in hand by its "relatore" (reporter), Professor Grocco, Dr. Baccelli presiding. Professor Grocco began with a history of polyneuritis, treating of its varieties and their classification. Entering into their pathogenesis, he described its first beginnings, its course, and the complications with which it was beset; and then he gave a set of indications as a basis of diagnosis. He discussed the relapses to which spontaneous polyneuritis was liable; then the multiple forms of neuritis, disseminated and systematised; and next went into their pathology. He concluded an able and elaborate paper by remarking that the study of the varieties of polyneuritis will constitute at no distant date a special chapter in the pathology of the nervous system.

Next came his coadjutor, Professor Rummo's, share of the report. He reduced all the varieties of polyneuritis to one single etiological factor. All these varieties, he said, are toxic, although the quality and the source of the toxic products are diverse—mineral poisons, poisons of animal origin, such as the albuminous poisons &c. To demonstrate this position he adduced a series of arguments drawn from pathological anatomy, from experimental physio-pathology, from the uniformity of the symptoms in the different forms of polyneuritis, and from the indications which, in certain types, explain certain peculiar symptoms.

The paper was an abstruse one, and its discussion was prolonged into the afternoon sitting, the critics being Drs. Giuffré, Sonnino, Di Pietra, and Bruni; but evidently the audience was not prepared for more than desultory skirmishing, a more formidable attack on its positions being reserved for the publication of the report.

Professor Queirolo read an interesting communication on "Diaphoresis in the Cure of Infective Fevers," in which he adduced experiments of his own to prove that in acute maladies there is an elimination of toxic matters by means of the perspiration. He was thereupon asked by Professor Rummo to consider whether the improvement succeeding such perspiration should not rather be attributed to the subtraction of heat. Dr. Farina, of the Army Medical Staff, however, reinforced Dr. Queirolo's position by his clinical experience in Africa, while Professor Rossoni desiderated still further clinical observations in support of Dr. Queirolo's view.

An able memoir of Professor Luzzatto on the various modes of accounting for vascular râles can only be referred to here, as lending peculiar interest to the forthcoming official report of the proceedings, an observation which must also be extended to Professor Masini's "Cure of Phthisis Pulmonalis with Injections of Creasoted Oil, *viâ* the larynx, into the trachea and bronchi." An instrument of his own invention *ad hoc* added greatly to the interest of his paper.

On the 23rd the forenoon sitting was exclusively occupied by the members of the Association in discussing its business matters, and arranging the programme for its fourth meeting in 1891.

In the afternoon a number of subsidiary communications were read and criticised, some of them important enough to occupy considerable space in the forthcoming report of the proceedings, and finally Dr. Guido Baccelli, the pre-

sident, before declaring the meeting closed delivered a short address, in which he congratulated the members on the increasing merit of their work, particularly on the practical side. On this he dwelt mainly in the interest of those members whose sphere of duty lay in districts remote from the schools, and whose professional efficiency could not but be augmented by the fresh contributions made to their armoury by such expositions and discussions as those they had been listening to for the last three days.

Rome, Oct. 24th.

THE BACCELLI BANQUET IN ROME.

AN Italian correspondent writes: "We are in all the heat and turmoil of a general election, and among the candidates presenting themselves to the constituencies none is surer of his seat than Dr. Guido Baccelli, who offers himself for one of the divisions of Rome, which he has already represented in five successive parliaments. On the evening of Saturday, the 15th, the honourable gentleman was entertained by his committee and a select number of his supporters at a great banquet in the 'Anfiteatro Umberto I.' The company was restricted to 480, and a brilliant assemblage of ladies occupied all the boxes on the first tier. The chair was taken by Prince Fabrizio Colonna, who gave the toast of the evening in a few effective periods, in which he dwelt on the great professional distinction of their guest and of the signal services he had rendered to Italy in his capacity of Minister of Public Instruction and as a member of Parliament. Dr. Baccelli's reply was in his happiest vein. Limiting himself at the outset to the moral and material interests of Rome, he referred to the ordeal, chiefly financial, she is now passing through, and augured for her a successful issue from her crisis, thanks to the same means already showing themselves efficacious in other cities similarly circumstanced—the revival and re-invigoration of industrial and commercial life. From the financial question he passed to others closely connected with it, and referred to the great impulse to her material prosperity which Rome will derive from the International Exposition she is to hold in 1893, the year in which, by a happy coincidence, the International Medical Congress meets within her walls, reinforced as that will be by the Exhibition of International Hygiene. By that time Rome will have added much to her traditional attractions, notably the 'Passeggiata Archeologica,' or archæological promenade, in which her noblest and most interesting ruins will be skilfully connected by a well laid-out roadway, so that the visitor may take them all in during the course of a single carriage-drive or pedestrian stroll. Coming to questions of practical importance for the inhabitants, more especially the rising generation, Dr. Baccelli described his scheme for a school of physical training, in which the young civilian and the military recruit might develop their bodies in well-graduated gymnastics under the eye of medically qualified superintendents. A noble rivalry between citizen and soldier might by this means resuscitate the best traditions of Rome, including, as it is meant to do, not only the ordinary discipline of the Turnverein, but rifle practice, and the feats of the swimming school. Interest in the working classes has been a well-known feature of Dr. Baccelli's work in the municipality and in Parliament, and on this subject he gave further pledges of practical effort in their behalf, while he pointed to the Policlinico, or great hospital for the observation and treatment of ailments, medical and surgical, as principally inspired by solicitude for the labourer and the artisan when visited by disease or physical casualty. In its wards, he said, the humblest in the land will share the advantages of a professional skill and attendance hitherto reserved for the privileged classes. From local affairs he next took his audience to the colonial policy of Italy, and dwelt on the ampler horizons opened up to the surplus population by territorial acquisition in the Dark Continent. In this connexion he indicated how the vast penal establishments of Italy might be relieved by transferring a considerable portion of their inmates to reformatories in the Abyssinian hill country or Red Sea littoral, thereby removing them from the contaminating atmosphere of the prison, and giving them a fresh start in life under conditions favourable to moral resuscitation. The reclamation of the waste lands of Italy—the true 'Italia Irredenta'—notably the Roman Campagna, had already shown how a convict population might be usefully employed; and now Italy's African colonies would multiply such opportunities of restoring the criminal classes to moral health and to the service of society. The remainder of his very brilliant speech was devoted to a review of the present state of political parties, among which he frankly reasserted his claim to be considered as a 'Constitutionalist of the advanced Progressist wing.' A glowing tribute to the virtues of King Humbert formed the peroration, and Dr. Baccelli sat down amid plaudits such as rarely greet the orator of the purely forensic or political kind. The constituents of the *primo collegio* (first electoral division) of Rome are to be congratulated on their candidate, whose return is so assured that (as I write) he may really be called their representative."

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

PUBLIC HEALTH MEDICAL SERVICE.

THE following resolution, in reference to the conditions upon which health appointments should be held, was passed by the Edinburgh College at its meeting on the 4th inst.:

"That the Royal College of Physicians of Edinburgh, which has during the last two hundred years taken a deep interest in all matters connected with public health, and has for many years conferred a diploma in public health upon candidates who have undergone a special examination on the different branches of sanitary science, having taken into consideration the numerous appointments of medical officers of health made and to be made under the provisions of the recent Local Government Act, and being fully alive to the necessity of securing the satisfactory administration of the various Sanitary Acts, would venture to urge upon the Board of Supervision the importance of relieving all superintending county health medical officers, already appointed, from practice, and of appointing in the future only those who are free from practice, so that they may be enabled to devote their entire energies to the discharge of their special duties."

Certified by G. A. GIBSON, M.D., Secretary.

LIFE ASSURANCE AND THE MEDICAL PROFESSION.

WE have been asked to publish the following particulars relating to the Scottish Provident Institution, omitted by an oversight from the table of contracts from prospectuses which appeared in the Supplement of our last impression.

Name of office.	Whole term, without profits. Rate at age 30 for £100.	Endowment assurance.		Limited premiums. Terms.	Temporary assurances. Terms.	Reduced premiums at starting periods.
		Non-participating.	Participating.			
Scottish Provident Institution.	See special system on page 1081.	Yes.	Yes (fixed additions).	1, 5, 7, 10, 14, 15, 20, 21.	1, 3, 5, 7, or as agreed.	Yes.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Macclesfield Rural District.—According to Dr. J. Latham Rushton's report on this district for 1889 the death-rate was 15·1 per 1000, the zymotic rate being 1·7, as opposed to 0·8 last year. Much of this increase was due to an outbreak of scarlet fever in the township of Upton, on which Dr. Parsons reported at the time, and which was connected with the milk service. There were also a number of localised outbreaks of diphtheria. Dr. Rushton reports anew on all these occurrences, and summarises them in a useful tabular form. A good deal of attention is evidently given to the water-supplies of the district, and as the result of the examinations made some of the wells are periodically closed.

Woolwich.—For the first time an annual report is issued with regard to Woolwich, a place that was long in need of a proper health officer, but which was not so provided until comparatively recent legislation compelled the step which led to the appointment of Dr. William R. Smith. For these reasons much in the report deals descriptively with the various sanitary aspects of the district; and it is satisfactory to note that this is largely based on a house-to-house inspection which has been set on foot. Two prominent defects have thus been already brought to light—namely, the need for a proper water-supply to all waterclosets, and the provision of suitable receptacles for ashes and house refuse. The by-laws as to houses let in lodgings, which came into operation in 1869, need to be properly enforced, and a suggestion is made by Dr. Smith so as to overcome a difficulty hitherto felt in connexion with this subject. With regard to the isolation of infectious diseases a curious circumstance is related. The arsenal authorities, desirous of preventing infection, give to their *employés* in whose houses infectious diseases prevail a certain proportion of their wages, and, this being supplemented by sick club allowances, these people are often better off when there is sickness at home than at other times, and this prevents due recourse to isolation in the Asylums Board hospitals. The annual death-rate, when corrected for cases of bodies found drowned in the Thames, was 20·3 per 1000, a rate which we trust may be reduced under the new health administration.

Warrington Urban District.—The general death-rate for Warrington during 1889 was 22·1 per 1000, a rate in excess of the average for previous years, and the zymotic rate was as high as 4·2 per 1000, a result which was largely due to an epidemic of measles, the mortality from which was influenced by conditions of overcrowding and faulty sanitary surroundings. Under the system of notification Mr. Gornall received 302 certificates, of which 256 were as to scarlet fever. The excellent fever hospital received 278 patients, all but three of whom belonged to Warrington; and of the total number 220 were admitted on account of scarlet fever.

Derby Urban District.—In Derby the death-rate last year was 16·3 per 1000, the zymotic rate being 1·3. Scarlet fever is reported by Mr. Iliffe as having been somewhat widely prevalent, 775 cases having come under notice. In point of mortality, Mr. Iliffe compares the two five-year periods since notification came into operation. During 1880–84 there were 170 scarlet fever deaths, in 1885–89 there were only 71, and this with an increase in population. And it is stated that the opening of the old Rowditch isolation hospital for cases of this disease led at once to a very marked decrease in the amount of attacks. Diphtheria, unfortunately, tends to increase in Derby—indeed, the deaths last year more than doubled those of any preceding year since 1878, and thus far the cause of this has not been detected. Fortunately the new infectious hospital is rapidly approaching completion, and it may be that immediate isolation of first attacks will do something to cope with this increase. Good supervision of dairies, milk shops, &c., is going on, well waters are being steadily condemned, and good general sanitary work is maintained.

Lowestoft Urban District.—On an estimated population of 23,440 the corrected death-rate amounted to 14·9 per 1000 during last year; and it is satisfactory to note that it has only once reached 17 during a period of ten years, the mean being 15·4. The zymotic rate was 1·4, the decennial mean being 1·8 per 1000. A large portion of the report is given to a statistical study of the deaths which have occurred, the material being utilised with a view of pointing out the value, for public health purposes, of the indications thus afforded. In the general part of the report a prevalence of enteric fever is dealt with; and it is believed that privy-bin nuisances, drain effluvia, and in a few cases polluted drinking water, were the essential conditions which contributed to the prevalence. Action seems to have been at once taken to remove all such causes of disease as were detected. All disease occurrences are dealt with somewhat exhaustively by Dr. W. A. S. Wynne, and a detailed account is also given of the current work of the health department of the town. Amongst the principal improvements effected it is noteworthy that the South Lowestoft drainage scheme was in working during the year, the system being that known as Shone's hydro-pneumatic system.

Mutford and Lothingland Incorporation.—Dr. W. A. S. Wynne only assumed charge of this district in September, 1889, and the absence of previous records has interfered with as complete a report as would have been otherwise possible. Each division of the district is dealt with separately, but taking them together the death-rate was 12·7 per 1000, which after correction is given as 11·3. Occurrences of infectious diseases are recorded at some length; the unwholesome conditions with which they were believed to be associated being dealt with. A good deal of neglect in matters that are apparently trivial is due to ignorance in this rural district, but Dr. Wynne's report suffices to show that such matters acquire considerable importance when the prevention of disease is in question.

Bournemouth Urban District.—The population of Bournemouth is estimated at 36,375, it having been 5985 only in 1871, and on this estimate the death-rate for 1889 was 12·7 per 1000. Assuming the estimate to be correct, this is a satisfactory result; but 7½ persons to a house, on which it is reckoned, is a somewhat exceptional allowance. During August a prevalence of diphtheria was traced to a milk service, but the actual source of the infection, which the milk served to disseminate, is not stated. Many such outbreaks remain exceedingly obscure, and it is necessary that comparatively trivial diseases in milch cows should receive attention in this respect. The amount of infectious disease in the town was, however, small, and a substantial number of those attacked found means of isolation in the authority's hospital. The general sanitary work was sustained during the year, and Mr. Kinsey-Morgan is able to explain that progress is being made in every direction. The mean yearly average of bright sunshine during the past ten years was 1593 hours.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5343 births and 3929 deaths were registered during the week ending Nov. 15th. The annual rate of mortality in these towns, which had been 22·1 and 20·8 per 1000 in the preceding two weeks, rose again last week to 21·1. The rate was 20·2 in London and 21·9 in the twenty-seven provincial towns. During the past seven weeks of the current quarter the death-rate in the twenty-eight towns averaged 20·6 per 1000, and exceeded by 0·5 the mean rate in the corresponding periods of the ten years 1880–89. The lowest rates in these towns last week were 15·0 in Derby, 15·3 in Nottingham, 16·9 in Brighton, and 17·1 in Huddersfield; the highest rates were 25·9 in Newcastle-on-Tyne, 26·1 in Bolton, 30·6 in Oldham, and 31·1 in Manchester. The deaths referred to the principal zymotic diseases, which had been 523 and 541 in the preceding two weeks, declined again last week to 471; they included 156 from measles, 71 from whooping-cough, 66 from scarlet fever, 64 from diarrhœa, 58 from "fever" (principally enteric), 56 from diphtheria, and not one from small-pox. The lowest death-rates from these diseases were recorded in Wolverhampton, Nottingham, Blackburn, and Hull; the highest in Bolton, Preston, Birkenhead, and Manchester. The greatest mortality from measles occurred in Brighton, Oldham, Bradford, Bolton, Birkenhead, and Manchester; from scarlet fever in Manchester, Salford, Oldham, Sunderland, and Liverpool; from whooping-cough in Halifax,

Cardiff, Birkenhead, and Norwich; and from "fever" and from diarrhœa in Preston. The 56 deaths from diphtheria included 29 in London, 6 in Sheffield, 4 in Salford, 3 in Manchester, and 2 each in Birmingham, Derby, Leeds, and Newcastle-on-Tyne. No death from small-pox was registered in any of the twenty-eight towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals or in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of last week was 2117, against numbers increasing from 1427 to 2122 on the preceding twelve Saturdays; the patients admitted during the week were 186, against 247 and 188 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had increased in the preceding five weeks from 197 to 465, were again 465 last week, and were 48 above the corrected average. The causes of 100, or 2·5 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Norwich, Bradford, Cardiff, and in three other smaller towns. The largest proportions of uncertified deaths were recorded in Halifax, Huddersfield, and Liverpool.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21·8 and 21·0 per 1000 in the preceding two weeks, further declined to 20·4 during the week ending Nov. 15th, and was 0·7 below the rate that prevailed during the same period in the twenty-eight large English towns. The rates in the eight Scotch towns ranged from 14·2 in Edinburgh and 19·8 in Aberdeen to 22·9 in Paisley and 31·2 in Perth. The 527 deaths in the eight Scotch towns showed a decline of 16 from the number in the preceding week, and included 18 which were referred to diarrhœa, 14 to measles, 14 to whooping-cough, 9 to "fever," 6 to diphtheria, 6 to scarlet fever, and not one to small-pox. In all, 67 deaths resulted from these principal zymotic diseases, against 87 and 72 in the preceding two weeks. These 67 deaths were equal to an annual rate of 2·6 per 1000, which almost corresponded with the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of diarrhœa, which had declined in the preceding six weeks from 38 to 14, rose again to 18 last week; 8 occurred in Glasgow, and 4 in Dundee. The 14 deaths from whooping-cough showed a slight further decline from recent weekly numbers, and included 7 in Glasgow. The fatal cases of measles, which had been 14 and 10 in the previous two weeks, rose again to 14 last week; 7 occurred in Glasgow and 6 in Greenock. The 9 deaths referred to "fever" showed a further increase, and included 6 in Glasgow. The fatal cases of scarlet fever, which had been 15 and 13 in the preceding two weeks, further declined last week to 6, of which 3 occurred in Edinburgh. The 6 deaths from diphtheria also showed a marked decline from recent weekly numbers, and included 4 in Paisley. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 118 and 122 in the preceding two weeks, further rose to 137 last week, but were 12 below the number in the corresponding week of last year. The causes of 53, or 10 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·3 and 20·7 per 1000 in the preceding two weeks, rose again to 22·5 during the week ending Nov. 15th. During the first seven weeks of the current quarter the death-rate in the city averaged 21·9 per 1000, the rate for the same period being 19·4 in London and 18·0 in Edinburgh. The 152 deaths in Dublin showed an increase of 12 upon the number in the preceding week, and included 3 which resulted from diarrhœa, 2 from "fever," 1 from whooping-cough, but not one either from small-pox, measles, scarlet fever, or diphtheria. Thus the deaths referred to the principal zymotic diseases, which had declined in the preceding four weeks from 23 to 15, further fell last week to 6; a lower number than in any week since April last; they were equal to an annual rate of 0·9 per 1000, the rate from the same diseases being 2·1 in London and 1·2 in Edinburgh. The fatal cases of diarrhœa, which had declined from 13 to 4 in the previous four weeks, further fell to 3 last week. The deaths referred to different forms of "fever," which had been 6 and 8 in the preceding two weeks, declined last week to 2. The 152 deaths in the city included 28 of infants under one year of age, and 44 of persons aged upwards of sixty years; the deaths of infants corresponded with the number in the previous week, while those of elderly persons exceeded those recorded in any recent week. Five inquest cases and 4 deaths from violence were registered; and 56, or more than a third, of the deaths occurred in public institutions. The causes of 9, or nearly 6 per cent., of the deaths in the city were not certified.

HEALTH OF DUBLIN IN 1889.

The publication of Sir Charles Cameron's (medical officer of health for Dublin) report was delayed until last week, owing to the necessity of waiting for some information required from the annual reports on the vital &c. statistics of Ireland and England, which did not appear until late in 1890. The births in the whole registration area numbered 9866, or 28 per 1000, the average rate for the preceding ten years being 29, while the deaths were 9053. The death-rate was 0·4 above that of 1888, the increase arising almost altogether to excess of deaths of males. Of the 9053 deaths no less than 2899, or 32 per cent., occurred in the various workhouses, hospitals, asylums, and prisons, while in English towns about 16 per cent. take place in public institutions. Zymotic diseases caused 1057 deaths, or 146 below the average number for the previous decade. Typhus fever caused only 16 deaths in the city, being the lowest number on record; while typhoid fever showed an increased fatality as compared with recent years: for example, in 1887 it caused 95 deaths; in 1888, 124; and in 1889, 170 deaths. Scarlatina caused 27 deaths; but whooping-cough was the most fatal zymotic disease, causing 221 deaths. Phthisis still continues to be a high factor in the Dublin death-rate, causing last year 943 deaths, or an excess of 88. As showing the relation between cold and diseases of the respiratory organs, Sir Charles Cameron shows by charts that a low temperature in the spring months causes a greater mortality than in the early winter months—that is, that a considerable fall of temperature in April causes a greater increase in the death-rate from bronchitis &c. than it does in December. In 1889 there was a small decrease in the mortality of children under five years; in 1888 the number of deaths of children under five to every 1000 children of the same age-period living was 74·6; while in 1889 it was 74·3. Under one year it was 180 to every 1000 births registered, and 197 to 1000 deaths registered in 1889. A large number of public and private buildings were examined during the year with the view of detecting sanitary defects. In many cases the sanitary accommodation and drains were found in a bad state, while in several instances the water used for drinking purposes was taken from the cisterns in direct communication with waterclosets. The defects in drainage arrangements, such as want of proper trappings, use of rubble drains, decay of stone drains, bad levelling of drains, blocking up of them, &c., were very numerous. Sir Charles Cameron recommends the simple wash-out watercloset patented by Shanks as the best in use at the present time. For the first time for many years the estimates for the Public Health Department are not only not increased, but were largely reduced. The estimates also for last year provided for the expenses in carrying out the notification of infectious diseases, and those incidental to the newly established laundry for infected linen &c. Substantially, the sum asked for by the department to carry on its operations in 1890 was £5000 less than the sum named for 1889.

THE SERVICES.

ARMY MEDICAL RESERVE OF OFFICERS.—Surgeon Henry Fraser Stokes, 1st (City of London) Rifle Volunteer Brigade, to be Surgeon, ranking as Captain (dated Nov. 19th, 1890).

NAVAL MEDICAL SERVICE.—The following appointments have been made at the Admiralty:—Staff Surgeons: Isaac H. Anderson, M.D., to Plymouth Hospital, Ralph W. Brereton to the *Defiance*, Alfred T. Corrie to the *Agamemnon*, William Thompson to the *Audacious*, and John C. B. Maclean, M.A., M.B., to the *Dreadnought* (all

dated Nov. 24th, 1890). Surgeons: Alfred H. L. Cox to the *Swift*, Lawrence Bidwell to the *Rattler*, Joseph Chambers, M.A., M.B., to the *Dreadnought*, and Charles J. Matthew to the *Agamemnon* (all dated Nov. 24th, 1890); Herbert P. Shuttleworth to the *Excellent*, additional (dated Nov. 18th, 1890); W. Eames to Hong Kong Hospital, C. Dickinson to the *Victor Emmanuel*, Frederick W. Parker to the *Leander*, Charles J. S. Kelsall to the *Linnet*, and Hugh W. Macnamara to the *Excellent* (all dated Nov. 19th, 1890); Mr. John S. Forrest to be Surgeon and Agent at Alnmouth, Amble, and Hansley.

Correspondence.

"Audi alteram partem."

PROFESSOR KOCH'S REMEDY FOR TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—Amid the excitement which has naturally been caused by Dr. Koch's premature publication of the effects of his new remedy for tuberculosis, it is very important that the right steps should be taken to secure the fullest and most trustworthy information on the matter. Anything like a rush to be first in the field must be sternly deprecated, and we must not lose sight of the fact that observations, to be of any value, must be the outcome of long and patient study. Hundreds of physicians are hurrying to Berlin, and some are already hastening back, apparently content to have seen a few patients inoculated, and a few others who have been previously subjected to the treatment. This is not scientific observation, and is certain to lead to erroneous conclusions. Is it not a case in which the Government, or the Royal Colleges of Physicians and Surgeons, and some of our medical societies, or all of these combined, should send out a strong commission of physicians, surgeons, and bacteriologists to follow Dr. Koch's work for two or three months—in fact, for as long as they find it necessary? No doubt such a commission would have every facility afforded it by the German authorities, and their report would be of substantial value. Trusting that you will lend your valuable support to this suggestion, I remain, Sirs, your obedient servant, F.R.C.S.

PULSATING LIVER.

To the Editors of THE LANCET.

SIRS,—Your annotation on "Pulsating Liver" in to-day's issue of THE LANCET calls attention to a very interesting subject, but one which, I venture to think, is not so rare as your remarks would seem to imply. In an article on Pulsation of the Liver, in the Guy's Hospital Reports for 1875, vol. XX., I recorded five cases which fell under my notice within twelve months, and I have since that time met with very many instances in the routine examination of cardiac cases, especially those of mitral constriction. Only recently I have had under my care in the clinical wards of Guy's Hospital two cases of mitral constriction, with obviously pulsating liver, and three others were under my care in January, June, and September, thus making five in less than a year. I note also in our Registrar's Index of Medical Reports for the last two years that he has indexed one case of pulsating liver in 1888 and four cases in 1889. The two cases to which I have above referred as being in the clinical wards are both female patients, aged respectively twenty-five and eighteen, and presenting symptoms and physical signs characteristic of advanced mitral disease. The younger patient has a very slight degree of ascites, with œdema of the feet; the older has an obstinate ascites, for which she has been twice tapped, in June and August last, and which, having again accumulated, has only partially yielded to rest and medicinal treatment. The liver in this case, besides giving the sensation of pulsation, feels very hard, and appears to have its anterior margin rolled upon the dorsum, as if distorted by some thickening of the capsule. An old peri-hepatitis may be the reason why her ascites is so pronounced and obstinate. But I have not unfrequently noticed the fact to which you call attention in Dr. Sainsbury's case—namely, that the enlargement of the liver appears to relieve the engorgement of the right heart, and that ascites does not occur. This especially struck me in one of the cases I reported in 1875, that of Henry H—— (*loc. cit.*, p. 294, Case 5). He had no ascites, though his liver was much enlarged and pulsating freely. The liver seemed to act as a diverticulum, which accommodated all the excess of venous blood. But this is, I suppose, only one of the variations which may be observed in the results of the same form of cardiac disease in different persons, dependent, perhaps, upon the difference in the resisting powers of particular tissues.—I am, Sirs, yours faithfully,

Wimpole-street, W., Nov. 15th, 1890. FREDERICK TAYLOR.

"MIDWIVES' REGISTRATION BILL."

To the Editors of THE LANCET.

SIRS,—The general objections to this Bill have been so ably stated by others in your columns that I do not propose to repeat them. I wish to call attention, however, to a few general points. In the first place, who are the authorities in the profession who are backing this Bill? First, the British Medical Association, and, in the second place, the Obstetrical Society's council. I said the Association, but I should say, the executive of that association, for, at the meeting held at Birmingham in August, 1890, a resolution antagonistic to the pressing on of legislation on the subject was passed. With regard to the Obstetrical Society I have no knowledge of the sense of the members having been taken on the subject at all, and yet the Council is pressing on legislation vitally affecting their interests. What right have these bodies under these circumstances to pose before Parliament as representing the opinions of the profession at large or even those of their own members. Believing that they have not this right, it seems to me important that the profession should give their opinion, and make it felt; and this, I would humbly point out, can only be done by doctors organising meetings amongst themselves throughout the country and by educating popular opinion. The second point I want to make is this: The subject of midwifery has now been recognised by Act of Parliament as an important branch of the work of the profession, and has been placed upon a par with medicine and surgery at examinations. Is it a reasonable position for the profession to take when they say that it is desirable to put the bulk of the work into uneducated hands? It seems to me that simple cases of pneumonia &c. might, with just as good reason, be handed over to the trained and registered nurse. In conclusion, I would ask the profession at large to form and express an opinion on the subject, and not to allow itself to be made a cat's-paw.

I am, Sirs, yours obediently,

Hatfield, Herts, Oct. 15th, 1890. LOVELL DRAGE.

To the Editors of THE LANCET.

SIRS,—I am sure many general practitioners will agree with me that the skilled midwife is a necessity of the present day. Let us by all means do away with the midwife (!) whose only qualification is her age, and of whose incompetence one is too often reminded; but we cannot do without the trained substitute, who relieves us of a great deal of unpleasant as well as unprofitable labour. I attend about 250 cases of midwifery yearly, without counting those cases to which I am called by midwives to turn, put on the forceps, or remove an adherent placenta. A large proportion of these cases are among the poor, but there is a still larger number of the poor who are unable to pay even my moderate fee, and yet are above the pauper class; they must be attended by some one, and they are entitled to skilled attendance. Here comes the turn of the midwife. She has had experience, she can manage any ordinary case, and she can, in case of need, send to a doctor for assistance. In my opinion the trained midwife is a necessary adjunct to the general practitioner, whose work lies to a large extent amongst the poor, but who is unable to do more than a certain amount of midwifery in the year without serious injury to his health. I am, Sirs, yours truly,

W. T. SIMPSON LADELL.

Springfield House, Canonbury-road, N., Nov. 19th, 1890.

*** Dr. Rentoul and Dr. Bennett both send us long letters, for which we regret that we cannot find room, in answer to the letters of Dr. Aveling and Mr. Humphreys.

We must notice one answer they both give to a point in our leading article—that in every instance where fresh legislation has taken place in requiring qualification or registration in those who seek to practise, those already in practice are exempted. They quote the case of the Act of 1858 as an instance to the contrary, and say that it only recognised as entitled to registration those *without qualification* who were in practice before 1815. But this is not a parallel case at all; for the Act of 1858 had to deal with a profession already educated, examined, and "qualified." The proper comparison would be with the Apothecaries Act itself, which exempted from penalties all those in practice before it was passed. Dr. Rentoul makes a not unreasonable suggestion—that the penal clause of the Apothecaries Act should be followed, and not that of the Medical Act. We should quite approve of this.—ED. L.

THE GEOLOGICAL THEORY OF CANCER ORIGIN.

To the Editors of THE LANCET.

SIRS,—In your issue of Aug. 11th last, Mr. Alfred Haviland criticises certain published views of mine concerning the genesis of malignant disease. Absence on the Continent prevented my noticing his letter until a few days since, and I am not now concerned to defend my statements of experience, simply referring my opponent to the identical observations of Sir James Paget on the Influence of Mental Distress, in that master's "Surgical Pathology." As, however, Mr. Haviland blames me for not having investigated the geological environment of my patients, I propose now very cursorily to inquire whether any relevance can be attributed in the question at issue to such conditions. The primary basis of the "geological theory," as promulgated in 1875, is afforded by the Registrar-General's reports upon the twenty years' period from 1850 to 1870. These mortality statistics involve such serious elements of fallacy—unreliable death certificates, rarity of necropsies, confusion of different varieties of malignant neoplasm, &c.—that, however valuable in corroboration of other evidence, they obviously are very unsafe guides in an attempt to solve any "obscure problem of pathological causation" solely on their own merits. Moreover, the space of time involved is manifestly far too short for any valid scientific induction whatsoever. In respect to malignant disease, many conditions, likely to involve error, are specially discernible. The existence of large hospitals or infirmaries in a particular town; the repute of local practitioners, orthodox or otherwise; the general character, habits, and occupation of the population, with the relative proportions of the sexes; the facilities for locomotion, are but a very few of the complex factors which need consideration. In the letter referred to, Worcester, Gloucester, Shrewsbury, Tewkesbury, Cheltenham, and Stratford-on-Avon are apparently selected by Mr. Haviland as crucial instances proving the truth of his views, all showing a high mortality from cancer, and being "all more or less subject to the periodical floods of the rivers Severn and Avon." With two of these I happen to possess some slight acquaintance. Shrewsbury is situated upon high ground, around which sweeps at some distance the Severn; on the opposite side to the main bulk of the buildings are high banks, also crowned by suburbs. No town could well be better placed for drainage; not half a dozen houses can possibly be affected by the largest river flood; between the stream and the inhabited eminence intervene large meadows. At Worcester, again, a superficial inspection of the place would suggest that floods are about the last evils likely to augment the local death-rate.

By way of applying a test which may appear rough, but which as involving local experience, is, I consider, infinitely more reliable than any merely abstract numerical proposition. I have made inquiries of medical men practising in the hapless towns thus proclaimed by Mr. Haviland, selecting in every case but one the senior surgeon of the local hospital. For the following courteous replies I am greatly indebted to those gentlemen. Dr. Withers of Shrewsbury states that the Salop Infirmary receives cases of cancer from all parts of Shropshire and of Central Wales; he "believes that the disease is common in the district, but has no reason to think it more common in districts subject to floods" (from which, as above pointed out, Shrewsbury is practically exempt); "he cannot connect it with a damp soil." Mr. Hyde "is not aware that there are more cases of cancer in Worcester than elsewhere"; he has made no "observations in respect of the locality whence the infirmary and other patients are derived." Dr. Devereux (*a*) "has no reason to consider there is a greater prevalence of cancer at Tewkesbury than is the average rule elsewhere; (*b*) has no reason to attribute the disease to river floods or to dampness of soil." Mr. Bennett "has no reason whatever to suppose that cancer prevails at Cheltenham over any other town of a similar size, character, and situation; as senior surgeon to the hospital, he has had ample experiences to warrant him in saying that the disease in question cannot be attributed to river floods or to excessive dampness of soil, seeing that Cheltenham is singularly free from such troubles." Dr. Waddy of Gloucester is "an agnostic with regard to both questions"—i.e., the special prevalence of cancer in his neighbourhood and the connexion of the latter with a damp soil. Dr. Nason of Stratford-on-Avon states that river floods there are not at all frequent, and that the country is well drained.

Returning for an instant to our figures, Mr. Haviland, in his original work, contrasts the "high" mortality of Yarmouth and Norwich with the "low" death-rate of Liverpool and Manchester. The annual mortality from cancer in the two former towns is stated to be ·076 and ·065 to 100 respectively; in the two latter ·041 and ·043. Expand these ratios, and they respectively become 760, 650, 410, and 430 to the million. Can any weight be attributed to arguments based solely upon such trivial differences of number? Cancer hospital records in no way point to particular districts as characterised by a special predominance of cancerous maladies. In his useful "Inquiry into the Geographical Distribution &c. of Cancer in England and Wales," my colleague, Mr. Jessett, has pointed out the utter want of any correspondence between the seasons of high death-rate from this cause and those of high river floods. In the *British Medical Journal* of Feb. 26th, 1887 (report of the Investigation Committee, by Mr. Butlin), may be read sufficiently numerous instances flatly controverting the theory which associates cancer with a damp soil. In his assertion that our modern improved system of drainage has resulted in more disastrous river floods Mr. Haviland must surely be in error, but time will not serve to examine that point. Mr. Haviland has done yeoman's service in other domains. In that of cancer, however, he has erected a structure which lacks but one element of soundness—the corner-stone of clinical experience, and of some initial indication of causal association between two widely diverse series of phenomena. Without that foundation all such purely numerical deductions fall to the ground.—I am, Sirs, yours faithfully,

Gloucester-place, W., Nov. 12th, 1890. HERBERT SNOW.

PRISON MANAGEMENT.

To the Editors of THE LANCET.

SIRS,—It appears to me, from the report of the Howard Association, which I have only recently seen, that Maidstone is the prison referred to in the condemnation published in your issue of Oct. 11th, that "In one prison almost all the inmates are in association, and here the result has been a marked excess in the reported number of disgusting immoralities." I am able to give this charge the most unqualified denial, for during the fourteen years that I have been medical officer of Maidstone Prison no such case has ever been reported in the prison. As to the "especially foul and disgusting cases" for which the Kent Assizes are said by the Howard Association to "have had a special notoriety," the accused have been in almost all cases first offenders, so that they could not have acquired their "moral debasement" in Maidstone Prison. The statement that "the allotment of one cell to several prisoners is a common thing" is not true of Maidstone Prison. The only prisoners placed in association are those suffering from epilepsy and allied disorders. In such cases two well-behaved prisoners are selected to be in association with the prisoner under observation in a double cell specially constructed for the purpose; one door of this room is always open, and is replaced by an open iron gate, so that all three prisoners are under the constant supervision of warders both by day and night. During the last ten years the Commissioners of Prisons have, by consider-

able alteration and addition, reconstructed the prison so as to enable the separate cell system to be efficiently carried out. For these alterations prison labour (always under the supervision of officers) has been employed in addition to skilled outside labour in the demolition of old buildings, removal of bricks, stones, &c., and in the construction of new roads. The number of prisoners has been diminishing for the last ten years, and the number of prison offences has diminished in a greater proportion. I cordially endorse the remarks of Dr. Barr in your issue of to-day with regard to the association of prisoners in hospital. I too cannot but regret that your influential journal should have published such severe condemnation of the present management of the prison system without further inquiry into the truth thereof.

I am, Sirs, yours faithfully,

CHARLES E. HOAR, M.D.,
Nov. 15th, 1890. Medical Officer to H.M. Prison, Maidstone.

To the Editors of THE LANCET.

SIRS,—Allow me to say, in reference to the question of prison management, that the secretary of the Howard Association does not necessarily agree with each member of the executive committee as to the details of each annual report. Mr. Tallack and myself sometimes differ in our views on prison matters. The fact that individual members of the executive committee may have views of their own as to certain questions and principles does not in any way involve or shake the utility of the work done, and now in course of action, by the Howard Association, London.

I am, Sirs, yours faithfully,

GEORGE RAYLEIGH VICARS.
Boston, Lincs., Nov. 17th, 1890.

"THE TEES-SIDE EPIDEMIC AND THE PUBLIC WATER SERVICE."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Nov. 8th, in your leading article under the above heading, you state that "I have reported on water to which filtrates of enteric fever stools have been added without ascertaining that any risk was involved." Will you kindly tell me when and under what circumstances I did so?—Your obedient servant,

Mandeville-place, W., Nov. 10th, 1890. C. MEYMOTT TIDY.

*** In writing the article referred to we were under the firm impression that when the medical officer of the Local Government Board in 1881 submitted certain samples of water to which filtrates of enteric fever stools had been added to a number of distinguished chemists, Dr. Tidy was one of the chemists consulted, and that his results, amongst others, were in question when it was reported "that to the customary methods of chemical examination there is nothing to distinguish this pollution from any other excremental pollution." We now find that Dr. Tidy's name does not appear amongst the chemists who are quoted in the official report issued on the subject, and we must express our regret that he was referred to in the place of another chemist whose results we had in view.—ED. L.

THE GENERAL MEDICAL COUNCIL AND THE DENTAL PROFESSION.

To the Editors of THE LANCET.

SIRS,—That the appointment of a dental member to the Medical Council, so judiciously advocated by Messrs. Smale and Smith-Turner, would confer a benefit upon the entire medical profession not less than upon the dental branch seems to me obvious. It must be borne in mind that by the action of the great medical corporations, confirmed by the Legislature, dentistry has now become a recognised and sanctioned branch of the medical profession. The Dentists Act is steadily, and even rapidly, raising the specialty from the position of an unorganised trade. Dentistry now includes in its ranks a large proportion of educated men, fit associates and colleagues of their medical brethren. The improving status of dentistry cannot fail to make it more and more attractive to students, particularly those with a mechanical gift or a turn for operating; and it will become more and more common for such men to adopt the specialty rather than enter the overcrowded ranks of general practice. Although there seems a danger that the supply of dental practitioners at home may in a few years more than equal the demand, there will still remain for many a day a vast field in India and the colonies, where at present the number of qualified dentists is altogether inadequate. Measures necessary to promote the further advance of dentistry and to make it a still more eligible calling can hardly be so well understood and appreciated by one who is not himself a dentist; and as it is evident from the names already cited that it will not be difficult to choose a delegate who, while giving particular attention to dental business, may be trusted not to neglect the general interests of medicine. The suggestion when understood must surely commend itself to the favourable consideration of the profession.—I am, Sirs, your obedient servant,

Wimpole-street, W., Nov. 15th, 1890. HENRY SEWILL.

To the Editors of THE LANCET.

SIRS,—The suggestion of Mr. Morton Smale that dental surgeons should be directly represented upon the General Medical Council is worthy of consideration. In your leading article upon the subject you say: "If dentists are to be conceded a special representative, why not ophthalmic surgeons? If a Midwives' Bill should pass, are we to be told then that the midwives must have a seat in the Council?" In my opinion the cases are not parallel, and for the following reasons, *inter alia:* 1. Dentists must possess a special registrable diploma (L.D.S.) and must be enrolled upon a Register entirely distinct from that containing the names of medical practitioners. 2. The Dentists Act is administered solely by the Council, notwithstanding the fact that the Dental Register contains some 4000 or 5000 names, including many with additional surgical and medical qualifications. 3. There are at least two gentlemen at present on the Council—viz., the members for the Apothecaries' Society of London and the Royal College of Physicians of Ireland—who are specialists, and whose specialties are, at all events indirectly, represented. I will not venture to give an opinion as to whether the medical profession should be deprived of a member, or whether the Privy Council should appoint a dental representative; but *primâ facie* it would appear for the above reasons that dentists have some claim for more direct recognition on the General Medical Council.

I am, Sirs, your obedient servant,

Hanover-square, Nov. 4th, 1890. WM. A. MAGGS.

"THE CHOLERA AT ALEPPO."

To the Editors of THE LANCET.

SIRS,—Last week I was unable to forward to you the cholera statistics from the north. I now beg to enclose them, bringing them up to date. Hama or Hamath, with a population of 49,069 (according to the census of 1889), is now attacked, and the mortality is relatively and actually higher than in Aleppo, which has a population of about 120,000. This may be explained by the situation and unhealthy condition of the former place. Homs, Tripoli, and all the regions south of Hamath are so far free, while in Aleppo the disease seems to be dying out. You will observe that the number of deaths, according to the tele-

Date.	Aleppo, pop. about 120,000.		Hamath, pop. 49,069.	
	Attacks.	Deaths.	Attacks.	Deaths.
Oct. 13	23	20	5	3
" 14	27	33	3	2
" 15	30	32	17	5
" 16	—	15	9	6
" 17	33	32	8	7
" 18	—	25	9	7
" 19	33	38	19	16
" 20	22	20	9	15
" 21	16	20	29	37
" 22	10	15	22	27
" 23	11	10	15	38
" 24	6	6	52	36
" 25	17	15	32	42
" 26	—	15	52	57
" 27	—	6*	27	72

* Telegram states: "No new cases these two days; six deaths among those convalescent."

graphic despatches received, is in excess of the attacks! This is due to the cases being concealed, and not reported to the authorities from fear of having the bedding &c. destroyed by fire. You can therefore only rely on the number of deaths as being approximately correct.

I am, Sirs, yours faithfully,

F. J. MACKINNON, Medical Missionary.

Damascus, Syria, Oct. 27th, 1890.

HARD WEATHER IN THE NORTH.

To the Editors of THE LANCET.

SIRS,—Will you kindly insert the enclosed clipping from the *Japan Mail* for the information of Dr. Howard's friends who may have been anxious concerning his long enforced silence? I am, Sirs, yours truly,

W. N. WHITNEY, M.D.

U.S. Legation, Tōkyō, Japan, Oct. 7th, 1890.

From the "Japan Mail," Sept. 20th, 1890.

Dr. Benjamin Howard of London is lying in Hakodate, with two ribs broken and other injuries received during a terrible voyage on the Japanese schooner *Toyama Maru*, from the Okhotz Sea to that port. Dr. Howard has been examining into the management of the hospitals and prisons in Siberia and Saghalien. After spending some weeks as guest of the Governor at Korsakofski he left there on the Japanese brig *Koün Maru* of Hakodate. At midnight of the 23rd ult., in one of the most furious storms ever known in that region, the *Koün Maru* was driven upon a sunken reef, and all hands had to lash themselves or take to the rigging. The vessel went to pieces and became a total loss, but by means of a rope secured on the shore end by some fishermen, all hands were eventually saved. The proprietor of the *Koün Maru*, the captain, and Dr. Howard, with some sailors, put to sea in a flat boat, with matting for sails, and about seventy miles distant were taken on board the schooner *Toyama Maru*. This vessel, with another schooner, the *Nanno Maru*, went to the relief of the survivors, and thence sailed for Hakodate. The weather became so violent, however, that the *Toyama Maru*, after a severe struggle, reached here only by means of temporised sails, her two masts being broken. The other schooner accompanying the *Nanno Maru* has for eight days not been heard of. Dr. Howard, although quite disabled, is likely in time to recover without difficulty, but apart from his actual injuries he is very much shaken. When sufficiently recovered to travel he expects to return to Tokio, and *vid* America to London.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

A Year's Inquests in Liverpool.

DURING the year commencing Sept. 30th, 1889, and ending Sept. 29th, 1890, a total number of 813 inquests were held by the city coroner. In addition to these he inquired informally into 763 other cases which were reported to him by the police and others, making a total of 1576 cases inquired into. Of the inquests 271 were upon infants under seven years, and of these 201 were under one year, 182 of these being legitimate and 19 illegitimate children. Of the total number 492 were males, 321 were females, this large preponderance of males being no doubt due to the greater risks incurred by them of death from accident or injury. This is further shown by the fact that of 296 cases, where the verdict was "accidental death," 195 were of males, 101 of females, and that of 48 deaths from "injuries, cause unknown," 29 were those of males, 19 of females. "Suffocated whilst in bed with their parents" was the verdict returned in the terribly large number of 164 cases! It is somewhat remarkable that of these females predominated in the large proportion of 98 to 66 males. "Excessive drinking" was the verdict returned in 110 cases—69 males, 41 females. Twenty-two cases were returned as "found drowned"—20 males, 2 females; "natural causes" 72; other causes 46. It is only due to the coroner (legal), Mr. Clarke Aspinall, J.P., to add that he is the sincere friend of all the local medical practitioners, and especially of those whose duties take them to his court, his invariable study being to save their time, and to give them as little inconvenience as possible.

A Year's Accidents.

During the same period the number of accidents reported to the police amounted to a total of 2266, of which 96 were fatal. Those run over by cars, carts, &c., numbered 427, of which number 24 were fatal cases. There were 88 cases of persons falling from buildings, and of these 5 were fatal. A very large proportion of the accidents occurred at the docks, on the dock quays, and in dock works, as might be expected in so large a seaport, and these numbered 1166, of which 54 were fatal. Accidents from burning accounted for 46 cases, 8 of them being fatal, and there was only one accident from firearms which was not fatal. The small proportion of fatal accidents is no doubt largely due to the circumstance that more than one-third of the police force have been instructed in ambulance work and received certificates. But this is only first aid, and serious cases are at once taken to the dispensaries and hospitals, where they are promptly and efficiently attended to by the resident staff.

Returns of Persons "Drunk."

The annual report of the head constable, from which the preceding facts and figures have been procured, gives also very elaborate tables concerning one of the great questions of the day—viz., the drink question. As a rule persons who are merely drunk, but capable of going home, are not interfered with, probably because the Bridewells would scarcely hold them. Consequently persons are "booked" as "drunk and disorderly"; these amounted to a total during the year of 9251. Those found "drunk and incapable" were 3515; those who, in addition to being drunk, were also guilty of assaults upon the police, numbered 850. "Drunk and other assaults," and "drunk and other offences" numbered 1438, and completed the total of 15,054. Another table gives an even more elaborate return of the days of the week, and of the three-hourly periods of the apprehensions for drunkenness. From this it appears that the largest number were apprehended on Saturdays, the next largest on Mondays; while the three-hourly period which comprised the largest number of apprehensions was from 6 P.M. to 9 P.M.

Life Insurance among Medical Practitioners.

Among the many useful inquiries which THE LANCET has undertaken in present and past years none has been so useful and of such practical importance to members of the medical profession as the recent one of life assurance. Liverpool is one of those localities which brings yearly to it a large number of newly-created medical graduates and surgeons as candidates for the numerous appointments of resident hospital and dispensary surgeoncies which fall vacant from time to time. These appointments number up wards of twenty, and are sufficiently comfortable and well-remunerated to be popular. A certain proportion of the successful candidates, after filling the office for a term, settle here in private practice. Added to them are others who come as assistants, partners or successors. Many do well and succeed in obtaining a competence. But a proportion, by no means small, die in early or middle life, leaving a wife and family only slenderly provided for. Then appeals have to be made to more successful, because more prudent, brethren, who have among other wise precautions adopted those of life assurance and insurance against accident. Only a few years ago the late Dr. Ambrose C. Hughes was killed by a boy's hoop, causing the horse which the doctor was driving to stumble, and the latter to be thrown upon the pavement. Fortunately he was insured in a well-known accident office, which promptly paid the £1000, the sum assured. What a contrast is this with nothing at all, and yet life insurance is much neglected among local practitioners, partly from ignorance of its value, partly from distrust of the security of individual offices, partly from a belief that the money spent in premiums might be more profitably invested. The supplement of THE LANCET of last Saturday will go far to remove this distrust, and to encourage life insurance among the profession in Liverpool. Every facility exists for effecting life insurance here. There are the head offices, the branch offices, and the agencies of all the oldest and most reputable insurance companies, and in so well informed a mercantile community as Liverpool reliable information can be easily obtained as to the stability of any office.

Canon Cross on Physical and Moral Sanitation.

On Sunday last the Mayor of Liverpool, following a time-honoured custom, attended St. Peter's Cathedral Church, where, at the morning service, Canon Cross of Southport preached the sermon, taking for his text Ecclesiastes, chapter 9, part of verse 10: "Whatsoever thy hand findeth to do, do it with thy might."

Liverpool, Nov. 18th

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Hospitals.

SOME little time ago application was made to the authorities of the Royal Infirmary for permission to erect a public mortuary by the corporation, within the infirmary grounds. It has been urged that advantage might be taken of such a provision to utilise it for the advancement of pathological and medico-legal teaching to the students, but the Governing Board at its last meeting declined, though not unanimously, to permit any of the infirmary property to be used for this purpose. Undoubtedly it is the duty of the corporation of a large city to provide such places, but, on the other hand, there are strong objections to associate these with any public medical charity, and the balance of opinion inclines strongly to the view that the Board acted wisely in their decision.—The annual meetings of the Salford Royal and of the Southern Hospitals have recently been held. At the latter, a good record of a year's work was given. The patients attended (both women and children) have largely increased in number, and about 100 cases have been received into the Maternity Department. By means of a welcome legacy of £1500 from the late Mr. Proctor, some desirable extensions and alterations have been made to the buildings. Urgent appeal is made for increased annual support to meet the increased expenditure.—At the meeting of the Salford Royal Hospital the same urgent need for increased subscriptions was demonstrated. The chairman stated that, taking the year through, no less than eighteen cases of accidents had been treated every day of twelve hours. He also stated authoritatively that after full investigation of the circumstances of those who sought relief at the various hospitals of Manchester and Salford it was shown there was no material abuse of those charities. Increased expenditure and increasing difficulty in meeting that expenditure appear to be the common cry of all our medical institutions, if we except the Royal Infirmary, whose ample funds appear usually to be in excess of expenditure, large though this be.—At the Lock Hospital the vacancy caused by the sudden death of Mr. Alfred Blackmore has been filled by the appointment of Mr. Alexander Wilson, F.R.C.S.

Salford and its Slums.

Not a day too soon, Salford has set about the work of clearing off the face of the earth some of the worst of its slums. More than once these insanitary districts have been reported upon by the medical officer, but difficulties in dealing with them in a comprehensive manner have blocked the way. Availing themselves now of the Housing of the Working Classes Act, 1890, some of the worst of these insanitary areas are to be cleared of their overcrowded and squalid denizens, at a cost of £50,000, though this forms but a part of the whole work of destruction which will ultimately have to be faced, the total cost of which will probably considerably exceed a quarter of a million of money. It was stated in the council meeting that in some of these areas the death-rate reached the frightful figure of 78 per 1000 per annum.

The City Coroner and Slums.

Our coroner has lately delivered himself of some pertinent remarks *re* unhealthy dwellings. That such were a disgrace to our community he did not deny, but he quoted from his experience of some years' daily visitation amongst the poorer parts of the town—experience which will be confirmed by many a medical practitioner—to show that much also of default and neglect lay with the people themselves; he constantly had to visit houses where the floors and bedrooms were covered with filth giving out a most noisome stench, bedroom windows and fireplaces fastened up, and an utter disregard of all the most elementary principles of health. Dr. H. Simpson has also lately stated at a conjoint meeting of the officers of health and the Sanitary Association that the habits of the lower classes of our worst districts are "horribly and indescribably filthy." Of the present generation of such people little hope is possible, but surely the rising ones, with our Board Schools to train them, should give us ere long improved results. The authorities must do their part, but the people will have to be taught to do theirs also.

Victoria University.

What threatens to become a burning question in the history of our University was under discussion for the second time, at a meeting of the University Court. Ten years ago, when the Victoria University was founded, theological teaching and theological degrees were expressly excluded from its operations, by consent of all those who took the chief part in its formation. Of late years, however, with a change in the *personnel* of its governing body, a desire has sprung up amongst some of its members for the granting of theological degrees, and at a large meeting of the court the subject was fully gone into. This is not the place to discuss the *pros* and *cons.* of this debatable topic, but the result, notwithstanding the powerful support given to the proposed change by the Bishops of Chester, Oxford, and Manchester, was the rejection of the proposal by 18 votes to 14. With this decision it is to be hoped the matter will remain in abeyance for some years to come.

Health of Lancashire.

Mr. Sergeant, who was appointed officer of health to the County Council of Lancashire in the spring of this year, has just issued his first report upon the health of the county, exclusive of the large towns which have corporate bodies. It consists chiefly of a compilation of the reports from the various officers of health of the sanitary districts into which the county is divided.

Cremation.

The movement for establishing a crematorium is making good progress, and it is hoped that next year a Manchester crematorium will be *un fait accompli.* The plans for the building show a very elegant structure, and advantage has been taken of the experience obtained on the Continent to provide everything in the most approved manner. Ornamental columbaria will be built along each side of the main building, in which memorial tablets may be erected or urns deposited. Last week the Rev. H. R. Haweis gave a powerful address at the Manchester Athenæum in support of the movement, and at a conjoint meeting of the Society of Officers of Health and the Sanitary Association on Friday last, Dr. Wahltuch read a paper on the same subject.

Nov. 18th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Founders of the Newcastle Royal Infirmary.

A WRITER in the *Newcastle Journal* points out that very few are now aware of the circumstances out of which the Newcastle Infirmary was founded. It was early in 1751 that the members of a convivial club or society resolved, on account of the death of some, and the discontinuance from old age of others, to stop their stated meetings; but previously to doing so they decided to have a permanent memorial of the society in the way of some object of public utility. One of the members, Mr. Richard Lambert, a surgeon, suggested an infirmary. This was agreed to, and the project was commenced with much spirit. The first building accommodated twenty-five patients. The applicants became so numerous that it was decided to build a new hospital, the foundation-stone of which was laid on Sept. 5th, 1752, by Bishop Butler. This was the beginning of the Newcastle Royal Infirmary with its 300 beds.

Gateshead Children's Hospital.

This new institution continues to make good progress, and is a distinct advantage to the sick children of the town. It was mentioned at a late meeting that owing to the munificence of Lord and Lady Northbourne, who gave the site for the hospital, there is still about an acre and a half unoccupied; and it is proposed to lay this out in such a way that it will become an ornament to what will soon become a populous neighbourhood. A committee of ladies has been formed to carry this object into effect.

Disasters in the North.

The last few days have been remarkable for disasters of a very serious nature in the North. On Saturday last a gas-holder exploded in Middlesbrough, killing a man who was near and leaving the town in darkness for several nights. On Monday a boiler explosion took place at Messrs. Palmer and Co.'s works at Jarrow, by which a man was killed on the spot and two were so severely injured

that they had to be taken to the Palmer Memorial Hospital. The same night a serious explosion took place at Burradon Coal Mine, about six miles from Newcastle. Although about 400 men were working in the mine at the time, only about fifteen were in the neighbourhood of the explosion, which seems to have followed the "firing of a shot," as a blasting operation is termed. Four men were burned about the arms and hands; it is well they escaped so far greater injuries. It was at the Burradon Colliery In 1860 that the great explosion took place, by which seventy-one lives were lost. Since then the mine has been considered a "safe" one.

Stanhope as a Health Resort.

The people of Stanhope are making an effort to bring the claims of the place as a health resort more fully before the public. Certainly for a portion at least of the year, Stanhope presents many advantages. It is a little market town with a railway-station, is well built, stands high, and is surrounded with magnificent moors, which are a fine sight when the heather is in bloom. Many invalids requiring upland air might go further and not do better.

Death of a Centenarian.

At Wenverthorpe, near Malton, there was interred on Wednesday last Mrs. Hannah Williamson, at the age of 102 years, she having been born at Sherburn in 1788. She survived her husband sixty years.

Dr. Squance of Sunderland has been appointed honorary physician to the Monkwearmouth and Southwick Hospital, in place of the late Dr. Dixon.

Newcastle-on-Tyne, Nov. 19th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Scottish Microscopical Society.

THE first meeting of the above Society for the present session was held in Edinburgh on Friday, the 7th inst. Professor Sir William Turner, the retiring President, vacated the chair, and was succeeded by the President-elect, Professor William Rutherford, who delivered an inaugural address on "The Tercentenary of the Compound Microscope." He gave a brief but comprehensive sketch of the history of the instrument from its invention by Janssen in Holland in 1590 down to its latest improvements by Abbe. The invention of immersion lenses by Amici fifty years ago led the way to the latest development of the microscope. A tribute was paid to the great progress made during the last dozen years, owing to the mathematical genius of Professor Abbe. When Abbe found it impossible to make faultless lenses with the old glass, he sought the help of Dr. Schott, a skilled glass maker, and they compounded upwards of a thousand different samples of glass, and tested the optical properties of each. Forty-four useful varieties of optical glass were obtained. They made new varieties of crown and flint glass, in which the dispersion of the one could be almost completely corrected by that of the other. Other varieties of glass, containing borates and phosphates, were found of service, and with these added to the new crown and flint glass Abbe was enabled to construct his apochromatic objectives and compensating eye-pieces, by the combination of which the spherical and chromatic faults of the microscope have been at last overcome. Professor Rutherford then led up to Abbe's theory of microscopic vision and the limitation of the powers of the microscope, by giving an account of the diffraction and interference of light produced by monochromatic and by white light passing through a simple slit, and through a slit with a hair in it. The importance of micro-photography as a means of revealing very fine objects, such as the flagella of bacteria, was shown to be due to the shortness of the ether waves employed. A hearty vote of thanks was accorded to Professor Rutherford for his address.

Election of Lord Rector of the University of Edinburgh.

On Saturday of last week the polling took place for the election of a Lord Rector for the University, and resulted in the return of Mr. Goschen by a majority of 573. The numbers were—Goschen, 1378; Russell, 805. This is the largest majority on record. In the evening the students held a torchlight procession.

The Morison Lectures.

The second of these lectures, on the Neuroses of Development, was delivered by Dr. Clouston on Friday of last week at the Edinburgh Royal College of Physicians, and was well attended, in spite of most inclement weather. The lecturer communicated an extensive and important series of observations he had made upon the shape of the palate as an index of the mental and cerebral predisposition.

The Rosebery and Health Lectures.

The fifth and last course of these lectures is delivered this year by Mr. George J. Romanes, who has taken for his subject "Post-Darwinian Questions." The lectures are given in the University. Mr. Romanes also delivered the health lecture on Saturday last, taking for his subject, "Hydrophobia: its Prevention and Cure."

Influenza in Edinburgh.

It appears that influenza has reappeared in this town, but from inquiries it does not seem to have assumed epidemic proportions.

Royal Physical Society of Edinburgh.

Dr. Sims Woodhead, now of London, as Vice-President of this Society, opens the session on Wednesday with an address on "Science and Physic."

Order of St. John of Jerusalem in England.

At a Chapter General of the Grand Priory Dr. J. Wallace Anderson of Glasgow was recently enrolled as an honorary associate, and this selection has since received the sanction and approval of the Queen, the sovereign head and patron of the Order. Dr. Anderson is the first in the West of Scotland to receive this distinction, which has been conferred in recognition of his labours in the ambulance cause in this district.

Population of Glasgow.

Dr. J. B. Russell reports that, having obtained from the city assessor the return of inhabited houses as at June 1st within the strictly municipal boundary, he is now able to make his annual estimate of the population. If the number of occupied houses (118,272) be multiplied by 4·745 (the average number of inhabitants per house in 1881), we get a total of 561,200 persons; and adding to this 6456 (the number of inmates in institutions, as ascertained by special census), the total population of Glasgow, excluding the "Greater Glasgow" which surrounds it, and is continuous with it on all sides, is found to be 567,656. This shows an increase over the previous year of 2049 houses and 10,052 souls. The increase of population estimated in this way was last year greater than in any year since 1882, and nearly five times that allowed by the Registrar-General at the inter-census rate. The accumulated result of the growth of the city in excess of the inter-census rate was that, while Dr. Russell estimates the population at 567,656, the Registrar-General estimates it at 530,208, a difference of 37,448, amounting to a difference of between 1 and 2 per 1000 in the death-rate.

Glasgow Diplomas in Public Health.

The recent meetings of the Glasgow University Council have been interesting on many grounds, chiefly on account of the deliverance given by the graduates on the vexed question of the Public Health diplomas. In view of the unqualified condemnation of these diplomas by the General Medical Council it was proposed by Dr. J. Glaister, in a temperate and reasonable speech, to obtain an Act of Parliament to cancel said diplomas. This proposal was negatived by an immense majority of the Council, and for various reasons. It was pointed out that the dilemma of the University was this: The University, having once granted a degree, cannot legally take it back again; the General Medical Council, while it can prevent registration of diplomas not yet on the Register, cannot remove from the Register the name of any man except for "conduct infamous in a professional respect," a charge which no one dreams of bringing against the unfortunate diplomates. Even the Privy Council, after taking the trouble to hear oral evidence in the matter, could not remove a name from the Register without a special Act of Parliament; to attempt to procure a private Act of Parliament would be an expensive affair, especially as such a Bill would assuredly be opposed; and, finally, many of the diplomates have gone to lands where even an Act of the British Parliament does not run. The proposal was there-

fore definitely abandoned. At another meeting of Council it was recommended that the Professor of Medical Jurisprudence should be relieved of those parts of his duties relating to the study of public health on account of the vastness, complexity, and importance of the latter subject at the present day, and it was recommended also that a lectureship on public health should be instituted. Further, the Council suggested that the University should in future abandon the giving of diplomas in public health, but should make public health a department in the subjects for the degrees of B.Sc. and D.Sc.

University Rectorial Elections.

This is the last rectorial election in Glasgow in which voting is to take place by "nations," all contests in future to be determined by an actual majority of votes. Hitherto it has been possible for a candidate to have a majority in three out of the four "nations," and yet to be in an actual minority of votes if, as has actually happened, the majority against him in "Natio Glottiana" (including all students born in Glasgow and Lanarkshire) were large.

The Lord Rectorship of Aberdeen University.

The nomination of candidates for the Lord Rectorship of the University of Aberdeen took place last Saturday in the quadrangle of Marischal College. The candidates are Mr. Bryce, M.P., and the Marquis of Huntly. After these gentlemen were nominated in due form, the usual harmless fight between the opposing parties took place. After a fierce struggle the supporters of the Marquis of Huntly captured the standard of their opponents. "Cease fire" followed and the day's proceedings ended in a procession through the principal streets of the city. The polling takes place on Saturday, 22nd inst.

Health of Aberdeen.

During the last week 23 cases of zymotic diseases were notified to the medical officer of health. There were 2 cases of measles, 19 of scarlet fever, 1 of diphtheria, and 1 of whooping-cough. The death-rate for last month was 18·29 per 1000, being an increase of 2·15 over last month, but a decrease of 1·0 compared with the corresponding month last year. In his report for the quarter ending Sept. 30th, Dr. Hay points out that the death-rate in the poorer parts of the city is 53 per cent. higher than in the west-end districts. The fact that it is so high shows the need, in his opinion, for bettering the environment and conditions of life among the poorer classes in the city. He says: "Much of this is a matter of education, and the education of the masses in social and health matters is often a slow process. Still, let us hope that, through various agencies, such education is making progress. I am convinced, and every observant medical practitioner must be equally convinced, that a large amount of education is still required by our poorer classes regarding dieting. . . . Hundreds of them, especially of the young, die directly or indirectly of improper feeding. There is a want of knowledge, both as to the relative cost and nutritive value of foods and as to their relative suitability and digestibility. There is only one other of the necessaries of healthy life which I desire for the present to emphasise—it is wholesome houses and air. It is this more particularly which a municipal government may be greatly helpful in enabling the poorer classes to obtain. The recent consolidation and extension of the various Acts dealing with the housing of the working classes confers on the Council ample powers, both for the demolition of insanitary houses and the erection of new houses."

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Academy of Medicine in Ireland.

THE first meeting of the Surgical Section for the present session was held on the 14th inst. Among the card specimens exhibited was an interesting one by the President, Mr. H. Gray Croly. It was a rupture of the intestine caused by the patient using too much force to reduce a femoral hernia last August. The same patient had been operated on for strangulated femoral hernia five years previously. The President gave an address on cases of injury to the head, and where fractures occurred in persons under the influence of drink, and the diagnostic marks between injuries to the head and drunkenness, illustrating these by cases which had occurred in his practice. Mr. Hayes read a paper on Enterectomy, which caused an interesting discussion, to a great extent directed to the best kind of suture, particular attention being referred to the Lembert and Professor Senn's (Milwaukee, U.S.) method in this operation. At the close of the meeting Mr. Croly entertained a large number of guests to supper, which was served in admirable style in the board-room of the college. The toasts included "Her Majesty," "Royal Academy of Medicine," "Royal College of Physicians," "Army and Navy," &c., and "The President," the latter being proposed by Sir George Porter, Bart., who spoke in high terms of Mr. Croly's reputation as an operating surgeon.

Children's Hospital, Temple-street, Dublin.

Dr. McCullagh delivered the introductory address on Monday evening, which chiefly referred to the physical education of children. He alleged that half the dulness so often found associated with sluggish circulations was due to the presence in the system of effete products, and fully half the breakdowns occurring in persons of great mental ability arose from the same cause, although the results were somewhat differently produced. In the first, the deficient elimination was the direct result of the slow current; in the second, in obedience to the law that over-development of any one part could only take place at the expense of some other, the excitable and over-active brain robbed the rest of the body of its fair share of sustaining and reparative elements.

Presentation to Dr. R. Theodore Stack.

On Saturday last this gentleman was presented by his colleagues of the Dental Hospital with a portrait painted by Mr. Osborne. Dr. Stack, as honorary secretary of the hospital, has been indefatigable in obtaining funds for the new Dental Hospital, and already a sum of £2000 has been lodged in bank to the credit of the building fund. Sir William Stokes, in presenting the portrait, assured Dr. Stack that he carried with him the best wishes of his friends that he might be long spared in health and strength to continue the good work in which he was engaged.

Water-supply and Sewerage for Youghal.

The Town Commissioners have applied for a loan of £7400 for a proper water-supply and for sewerage purposes. The estimate for a pure water-supply, which is badly required, has been fixed at £6000, and £1400 for sewerage.

The Ulster Medical Society.

The opening meeting of the present session was held in the Museum on Nov. 5th, when the retiring President, Mr. M'Connell, introduced his successor, Dr. Dempsey, who gave a very interesting address on recent progress in bacteriological science, with its bearing on preventive medicine. On its conclusion he was accorded a warm vote of thanks, on the motion of Dr. Lindsay, seconded by Dr. Byers. A resolution touching the loss the Society had sustained in the deaths of Dr. J. W. T. Smith and Mr. Samuel Browne was passed. Both of these gentlemen had been former presidents of the Ulster Medical Society.

Medical Officer of Health.

At a meeting of the corporation, held on Nov. 10th, Alderman Whittaker, M.D., was appointed medical officer of health for the city of Belfast, at a salary of £500 per annum.

The Royal Hospital, Belfast.

The annual meeting was held on Monday, Nov. 17th, and, from the reports presented, I learn that during the past year ending Aug. 31st, 1890, 2274 new cases were admitted into the wards, which, with 130 remaining in the wards from the previous year, make a total of 2364 intern patients treated during the year; of these 1014 were medical and 1350 surgical. In the extern department during the year there were 25,183 new cases, of which the large proportion (20,208) were surgical. The intern and extern cases together number 27,847. Clinical instruction was given in the wards to 145 students in the winter, and to 65 during the summer session. Financially, the year commenced with a debt of £1147 10*s.* 7*d.*, and ends with an apparent deficit of £1607 4*s.* 3*d.*, but the increase of debt is more than fully accounted for by the extraordinary expenditure for sewerage and minor

improvements, and carrying to capital account the sum of £505 12s. 6d. The receipts for the year from all sources were £8316 8s. 8d., while the expenditure amounted to £8270 7s. 10d; the receipts have, therefore, exceeded the expenditure by £45 18s. 10d. During the year, two of the visiting medical staff, Dr. Whitla and Dr. O'Neill, retired, but were unanimously re-elected. Reference was made at the meeting to the great loss the hospital and the community of the city of Belfast had sustained in the deaths of Dr. J. W. T. Smith and Mr. Samuel Browne, both of whom were consultants to the hospital. As it has been felt for a long time that the hospital is not by any means sufficiently large for the rapidly increasing city of Belfast, it was stated by the secretary that the Board of Management had decided to approach the Society of Friends with a view of purchasing their extensive premises which adjoin the hospital buildings. The lease of the present hospital is for twenty-two years, but it is not thought that the Donegal family or their representatives would be likely to interfere with the possession of the place.

Life Assurance and the Medical Profession.

From inquiries which I have made from a variety of sources I am afraid the number of medical men who are insured in this district is not large. Two of the members of our profession who examine a very large number of those insured here have told me that the proportion of medical men who apply to them, or are sent to them by the companies, is a very small one. I think that the explanation of this fact is that a young medical man in his early years of professional life has no spare money; indeed, he is often, unfortunately, in debt to some friend who supplies him with funds to keep up appearances. Consequently, he is unable to pay the premium at a time when it would be small. Afterwards, when he is more than able to meet expenses, he thinks the increased premium, owing to his greater age, too great a drag on his resources. While I know some men who, on principle, put aside a certain portion of their income regularly each year, to be invested in English funds, or American or local stock, I am sure it is far from being a common practice. In a commercial community like the city of Belfast medical men in their investments act very much as the public do, with whom they are daily in contact. When they have accumulated money they are very often guided in their investment of it by some shrewd patient whom they trust, and who often gives them a hint upon which they act. I am quite sure, however, that very few who are uninsured lay aside a certain sum of money every year in lieu of what they would otherwise pay as a premium for insurance. There are now in Belfast a great many young men in the profession, amongst whom competition is very keen. Many of these, I know, have no capital to spare out of their hard-earned income either to pay for insurance or to invest.

The committee have elected Mr. J. Falkiner house surgeon to Monkstown Hospital, county Dublin.

November 18th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Depopulation of France.

M. BROUARDEL read an important paper at the last meeting of the Academy of Medicine, which goes to prove that a very great deal may be done towards checking the ever-increasing diminution in the annual addition to the population by improved public hygiene. He shows clearly that it is not only a question of diminution in the birth-rate, but that actually as many as 30,000 French people, mostly in the prime and vigour of life, die annually of preventable causes. Taking small-pox and typhoid fever alone, he showed that 14,000 persons were killed by the former malady last year in France, while in Germany, where vaccination is obligatory, there were only 110 deaths from this cause. From typhoid fever, 23,000 persons, mostly from fifteen to twenty-five years of age, died last year. Now M. Brouardel insists that both these scourges are perfectly preventable diseases. In order to suppress the mortality from small-pox, it was only necessary to render vaccination in France, as in Germany, obligatory. As to typhoid fever, the principal factor in its propagation was, in 99 per cent. of cases, drinking water. Therefore he submitted that the Academy should add to the resolutions that have already been passed in the New Sanitary Bill that vaccination and revaccination should be rendered compulsory; and that the law should arm the authorities with sufficient powers, so that the municipalities, or failing these the Préfets or the Government, might be able to assure public health against the dangers which result from the use of polluted drinking water. There was, he said, a national and patriotic interest in taking these energetic measures to safeguard the public health, for even now, in times of peace, one soldier out of every 335 died of typhoid fever; and in time of war the propagation of this pest is much more considerable, as was verified during the expedition to Tunis. Knowing, therefore, the principal focus of typhoid fever, and the means of combating it, the speaker depended on the assistance of the Academy in endeavouring to bring about a better state of public health.

The Treatment of Sympathetic Ophthalmia.

M. Abadie read a paper on this subject. Sympathetic ophthalmia of the true kind is regarded, since the labours of Leber and Deutschmann, as an affection owning a microbic origin. The microbes coming from the infected focus in the one eye—following a traumatism, for instance—gain little by little the deep parts of the eye, then, penetrating the chiasma, finish by gaining the optic nerve of the side opposite. Now, in order to combat these microbes, the enucleation of the diseased eye was empirically practised. If this be done sufficiently early the propagation of the microbes is probably arrested. But what, he asked, was it best to do when, an eye being wounded sympathetic ophthalmia declared itself in the opposite eye. In enucleating early the diseased eye, one removed at once, the principal pathogenic focus, the microbes, being as yet but few in number in the other organ, may not have gained sufficient headway to destroy the healthy structures. Cure is thus quite possible, especially if it be encouraged by mercurial inunctions. Of the microbicidal action of mercury there was no question. If the enucleation, on the other hand, is practised too late without the addition of the mercurial inunctions, it will usually be found that the loss of the second organ of vision results. In conclusion, he said that he would reserve enucleation for those exceptional cases where the destruction of tissue was so great as to leave little ground to hope for recovery. But before proceeding to enucleation he would first apply the galvano cautery to the various surfaces of the wound and afterwards inject a drop or two of a sublimated solution of 1 in 100. When, in spite of all, either because the case was seen too late or the enucleation was not sufficient, one had to deal with the single eye already profoundly attacked by sympathetic lesions, he advised, before undertaking an operation destined to re-establish vision, waiting until the morbid processes, or, in other words, the virulence of the microbes, was got under by repeated injections of a drop or two of sublimated solution.

Crime and Hypnotism.

The following curious story is recorded as having been told by a patient in one of the Paris hospitals recently while in a hysterical trance. Shortly after her admission, the patient, a young woman, had a violent hysterical fit, for the relief of which hypnotic sleep was readily induced. During her sleep she related with the most minute and circumstantial details the commission of a serious crime. As soon as she awoke the attendants recounted what she had said, whereupon she became much troubled and confused, and finished by avowing that the story was true. While taking into consideration that the young woman is a pronounced hysteric, it was, nevertheless, deemed right, on warning the patient that such was about to be done, to inform the police, to which course she evinced no objection.

Paris, Nov. 18th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Koch's Method of Applying his Discovery.

A SPECIAL meeting of the Free Surgical Society took place on Sunday evening, Professor von Bergmann in the chair. Professors Virchow, Waldeyer, Gerhardt, Leyden, B. Fränkel, Langenbuch, Thiersch, König, Ziemssen, Kerschensteiner, Esmarch, Bramann, Helferich, Madelung,

Schnitzler; Dr. von Gossler, Minister of Religious, Educational, and Medical Affairs; the emperor's physician in ordinary, Dr. Leuthold; Surgeon-General von Coler, head of the medical department of the Prussian army; Surgeon-General Grasnick, director of the educational establishment for army doctors and surgeons; Surgeon-General Mehlhausen, Director of the Charité, the Bavarian Surgeon-General von Lotzbeck, and many other military surgeons were present. Professor Koch, who had been expected, was not there, but his son-in-law, army surgeon Dr. Pfühl and Dr. Cornet were present. At the conclusion of the lecture [which is reported in another column, ED. L.] Professor von Bergmann invited the medical men present to visit his clinic next morning to see the changes which by that time would have taken place in the condition of the patients then inoculated. He proposed a "Hoch" (the German equivalent for three cheers) for Koch, which was enthusiastically responded to by the whole assembly. The directors of the Halle clinics came to Berlin on Sunday with their assistants and several patients to study Koch's method.

Professor Oskar Fraentzel, long a fellow-labourer of Koch in the study of tuberculosis, reported yesterday evening in the Society for Internal Medicine on his experience in the application of Koch's remedy for tuberculosis of the lungs. The general effect of the remedy on consumptive patients has been already described by Koch himself, and Professor Fraentzel reported some of the cases on which that description was based, a long series of uniform stories of the course which diseases of the lungs have taken under the influence of Koch's remedy. Fraentzel made his observations in his own ward in the Charité, and sufficient time has already elapsed since they began to admit of important conclusions. Fraentzel's judgment is of great value, for he is a physician of large experience, whose cantion in estimating clinical phenomena and therapeutic results is well known. What he said justifies the boldest hopes. It is no wonder, he says, that the severest cases of consumption are still incurable, but the successes which have been gained in cases of less severity are very great. The symptoms of the patient steadily improve from day to day. The frequent perspirations abate, the cough lessens, and the weight of the body constantly increases. The general condition gradually improves. The number of the tubercle bacilli in the sputum increases at first, but afterwards diminishes. In advanced cases the disease is at least considerably alleviated. In conclusion, Fraentzel declared that the method may perhaps be modified and further developed in time, though in its chief features it is firmly established. The main point is early treatment.

Dr. William Levy, who has been frequently named of late as one of Koch's fellow-labourers, has been a physician since 1877. His graduation treatise was entitled "A Collation of Clinical Observations on Diseases of the Cerebral Cortex in Man." After practising for some time as a physician he devoted himself more particularly to surgery. For some years past he has been one of the surgeons in connexion with the Trades' Sick Fund. His experience in this capacity furnished him with material for the investigation of recurrent inflammations of the bones among workers in mother-of-pearl, a disease on which Englisch, Gussenbauer, and Weiss of Vienna had written, but which had not previously been made the theme of special study here. Levy wrote on this subject in the *Berliner Klinische Wochenschrift* last year.

Nov. 18th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Cholera at Mecca.

THE Egyptian pilgrims have now all returned here with saddening accounts of the epidemic in the holy places, which was the chief characteristic of this year's caravan journey. Both at Mecca and Medina there is apparently an entire absence of sanitary arrangement, organisation of the mass of pilgrims, and statistics of the mortality. It is to be hoped that Europe will soon force Turkey to reform this annual pilgrimage. Private accounts agree in stating that cholera broke out at Mecca on June 26th, which is the day of the great sacrifice of sheep, when an enormous number, said to be 150,000, are slaughtered. The uneaten portions of the carcases are left to rot in the summer sun, and there is naturally a terrible odour and putrefaction not only of air but of drinking water. There is always a certain mortality from fever and dysentery after this ceremony, and this year the number of deaths mounted suddenly up to 800 in one day, after which cholera claimed numbers, diminishing every day to 200 at the end of the first week. Many pilgrims then continued their journey to Medina, where again for a fortnight there was a daily mortality, commencing with 150 and dwindling down to ten. The precautions successfully taken to prevent cholera from entering Egypt have been described in former letters.

Hydrophobia in Cairo.

Seven years ago the streets of Cairo used to contain thousands of homeless dogs, and it was loosely believed that rabies was unknown among them. But the town has now been freed of pariahs, because they are no longer required as scavengers, and yet hydrophobia occasionally appears. The only two cases which have been known at the hospital during the last seven years have occurred during the past twelve months. A child arrived with cheek and lip disfigured by a bite from a dog four weeks before admission, there being no history of the dog being rabid. The wounds healed, but before the child left the hospital a harelip operation was done to prevent disfigurement. Two days after this operation the child developed hydrophobia, and died in three days' time. In the absence of inoculation experiments on rabbits, I suppose sceptics would affirm that this might be a case of tetanus, in spite of the presence of the clinical symptoms of hydrophobia. I may mention here that many cases are reported in Egypt of rabies and hydrophobia, which prove on investigation to be bites from healthy dogs, and some bitten individuals have been sent at public expense to the Pasteur Institute at Paris for prophylactic treatment. An interesting case, apparently of true hydrophobia, has just occurred at Kasr-el-Aini Hospital. A young man-servant was sent up by his master with symptoms of exhaustion, great mental excitement, uncontrollable terror of draughts of air, sleeplessness, and thirst. He made pitiable attempts to drink, and clutched the glass of water a few inches from his lips. He eventually allowed about half an ounce to be tilted between his lips, when he held the fluid several minutes in his mouth, seemed to swallow it, but then had a convulsion of throat and whole body, and hawked it up again with viscid saliva. He was treated with morphia injections and nutrient enemata, but twenty-four hours after admission he was dangerously maniacal, and had to be tied down in bed, and he eventually died six days and a half after he was first noticed to be ill. His previous history was that of an irritable, excitable person, but free from alcohol, hasheesh, or religious excitement. He denied that he had ever been bitten or scratched by any animal, and he had no traces of a bite on his body. His master's account is that eighteen months previously the boy had rescued a stray cat from a boar-hound who was playfully holding it on the ground. The cat was very frightened, and bit and scratched the boy through his clothes on the right thigh, but it is said that no mark was seen on the skin. If this was the cause of the disease, the long incubation is deserving of note, and it is the first time on record of a rabid cat in Egypt. The boar-hound was certainly not rabid, but there is no information about the future life of the cat. At the necropsy, twenty-one hours after death, the hands were blue and half clenched, the legs, but not the arms, were very stiff; the brain membranes were much congested, the cervical and dorsal membranes of the spinal cord were considerably congested, and the blood in the skull and body was dark and liquid, as in typhus. There was, as during life, redness of fauces and pharynx, with great congestion of lungs, liver, and kidneys; the heart was very firmly contracted, with no blood on the left side and a little black clot on the right. One of the arguments in favour of hydrophobia existing occasionally in Egypt is that the natives have a remedy for it dating from the old Arab physicians. It is a beetle of the cantharides family, which causes the patient to urinate and evacuate blood, and it is believed that in the urine may be seen tiny effigies of a dog as large as a barley-corn.

Preparations for the Winter Season.

Visitors are now commencing to arrive, and though the weather is still disagreeably hot and damp, pleasant weather may safely be promised after the middle of November. By that time probably there will have disappeared the few

sporadic cases of dengue fever, which seem to be associated in Egypt with the maximum height of the Nile. The hotels have spent the summer in refitting themselves for the crowded season. Shepheard's has added forty new bedrooms, raising its accommodation to 250, and has introduced fireplaces into all the rooms with a cold aspect. The new hotel is now prepared for 300 guests, and the Continental for 130, with many much-needed gas stoves. Mena Hotel at the Pyramids already boasts of a Crown Prince and Princess, and a beautiful Arab art dining-room for 250 people.

Cairo, Nov. 3rd.

Obituary.

EDWARD WATERS, M.D., J.P.,

OF CHESTER.

A CONSPICUOUS man in the ranks of the profession has fallen. This expression is the more suitable, as Dr. Waters was known to the profession at large, more especially of late years, as in a certain sense a fighting man. He wrestled with Parliament and other powers in a struggle for the rights of the profession, and its proper representation in its own Parliament. And he wrestled hard. Those who worked with him remember his arrivals and departures from Euston-square at all sorts of unseasonable hours, with professional demands at home of the highest sort waiting for his return. High as was his sense of professional responsibility as a practitioner, and much as his services were in demand in Chester and the adjoining counties, he always found time to join a deputation to the Government, or a critical committee meeting, or the Council of the British Medical Association. In other words, Dr. Waters has been known to the profession at large latterly in connexion with medical politics, and though even medical politics have a certain objectionable effect on men, throwing them into cliques, and making them fancy that their own cliques represent the whole sum of what is meritorious or desirable, yet Dr. Waters must be credited with striving against this tendency, and with the desire to do justice to men outside his coterie. He certainly laboured with all his might for the direct representation of the profession. And he had his reward—not, indeed, in a seat in the Medical Council. Though he could easily have had this, he showed good taste in declining it. In 1866 he was elected President of the British Medical Association. Dr. Waters was made chairman of the sub-committee of the Association in connexion with medical reform in 1867, and continued so till 1886. In this period he was ubiquitous and unwearied. He was ready with a speech, or to give evidence, or to see a Minister, or to write a history of the movement. His personal acquaintance with public men was most useful. His evidence before the Select Committee in 1879 and the Royal Commission in 1882 was detailed and important. He received at the Brighton meeting of the Medical Association in 1886 its gold medal for distinguished merit. The Medical Society of Chester followed suit, and asked Dr. Waters to sit for his portrait. It was painted by Mr. Frank Holl, R.A., and presented at a public meeting in Chester by his Grace the Duke of Westminster, together with a purse containing £296. In June, 1887, Dr. Waters was presented by the Lancashire and Cheshire Branch of the British Medical Association at Stockport, through its President Dr. Ball, with a beautifully illuminated address, and a large silver tray and other valuable pieces of plate. In this year, too, Dr. Waters was elected Honorary Fellow of King and Queen's College of Physicians, Ireland, and received the honorary degree of Doctor of Medicine from the University of Dublin. So much for the later and more public aspects of Dr. Waters's life. But the political and public aspect of the life of a medical man is, after all, secondary to its more private and professional aspects, and we must revert to the other parts of a life so useful and honourable.

Dr. Waters was the son of the late Mr. Thomas Waters of Tutshill House, Gloucestershire, and Sarnau, Carmarthenshire. He was born at Carmarthen on June 20th, 1813, and was consequently seventy-seven years of age at his death. His chief medical education was at the University of Edinburgh, where he graduated in 1847. He was much respected by the eminent professors of that day, and for his thesis, "On the Fever of Edinburgh, 1846-7, including the Abdominal Typhus," he was awarded the gold medal. During his career he was resident physician to the Royal Infirmary, and also pathologist's assistant to Professor Hughes Bennett. In 1845 he was elected senior president of the Royal Medical Society. After leaving Edinburgh he studied in Paris, Vienna, and other continental schools, where, too, he made a very favourable impression on Louis, Magendie, Bernard, Rokitansky, Hyrtl, Brucke, &c. He had surgical experience during the Revolution in Paris in 1848, which enabled him to write on gunshot wounds. In 1848 an opportune vacancy occurred in the Physicianship to the Chester Infirmary, and Dr. Waters became candidate. Testimonials are not always to be relied on as indications of merit. But it was difficult for the governors to resist the unanimity with which men in Edinburgh and England and on the Continent testified to the merits of Dr. Waters, and he was elected. He continued in this office till the year 1875. On his resignation most complimentary expressions of regret were passed, and he was appointed Consulting Surgeon. He soon obtained in Chester and the district a large and lucrative practice, which continued down to his death on Nov. 11th. A severe illness two years ago damaged his heart so much that his recovery was a matter of some surprise. But his interest in work and in public affairs had so far revived that his death came as a shock to the community in which he acted as a physician, a magistrate, and a most zealous citizen. It was without notice or struggle.

> "Then with no throbs of fiery pain,
> No cold gradations of decay,
> Death broke at once the vital chain
> And freed his soul the nearest way."

Dr. Waters married in 1837 Miss Georgina Maria Isabella Hely-Hutchinson, daughter of the Rev. Lorenzo Hely-Hutchinson, brother of Richard, first Earl of Donoughmore, who survives him, as do also Captain Waters, R.A., and Miss Waters. Their grief is shared by the citizens of Chester and the members of the medical profession. The funeral of Dr. Waters was a public event and a high testimony to the regard in which he was held, including most of his professional brethren, the Duke and Duchess of Westminster, and the citizens generally.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT the ordinary meeting of the Council of the College held on Thursday, the 13th inst., in addition to the account of the proceedings given in our last issue, several reports were presented which we were then unable to place before our readers owing to want of space.

After a careful consideration of the reply of a Member of the College, in which he refused to make the statutory declaration required by the Council, as to the advertisements issued by him, which were, in the opinion of the Council and in the terms of Clause 2, Section 16, of the Bye-laws, "prejudicial to the interests" and "derogatory to the honour of the College," and "disgraceful to the profession of surgery," he was removed from being a Member of the College. The case of another Member was under consideration, but was adjourned to give him time to reply in his defence.

The reports of the following committees were read, approved, adopted, and entered on the minutes. The report, dated Oct. 17th, of the Laboratories Committee stated that the laboratories are completed and in working order. Permission to work in the laboratories had been granted to seven applicants. In their report, dated June 20th, 1890, the committee showed that, out of £2000 granted by the Colleges for the equipment of the laboratories, they had authorised at that date the expenditure of £1882 13s. 8d. on apparatus, instruments, and various other fittings and furniture. The balance of that amount—i.e., £117 6s. 4d.—had now been also expended in the same direction, and the committee were of opinion that the laboratories are sufficiently supplied with apparatus for carrying out researches in various departments, although additional apparatus will be needed from time to time for certain special work. The committee suggested, however, that a further sum of £500 be granted by the College to meet other items of expenditure,

not for the laboratories, but in connexion therewith—for instance, a lantern with projection microscope and episcope for the theatre, fitted with electric light, at a cost of £116, and a number of reference books for the use of workers in the laboratory, which may probably be purchased for the sum of £50. In making this proposal the committee thought it right to remind the Colleges that in the report of the committee appointed to consider and report to the two Colleges on the educational or scientific uses to which the building on the Embankment could be best applied, dated Oct. 8th, 1889, and subsequently approved by the Colleges, it was contemplated that the sum required to furnish the laboratories sufficiently might amount to £5000, whilst, with the additional grant above mentioned, the committee will have fitted up the laboratories, library, and theatre for half that amount—i.e., £2500.

The report, dated Oct. 20th, of the Committee of Management stated that they had recently had under consideration the conditions on which students of universities in the United Kingdom are now admissible to the Final Examination of the Examining Board, and finding that, under the present Regulations, such students can gain admission to the Examination of the Board without fulfilling the complete curriculum of professional study, they recommended that Clauses 3 and 4, Section 3, of the Regulations should be altered so as to read as follows—viz.:

"3. Any member of an English University who shall have passed such an examination or examinations at his University as shall comprise the subjects of the First and Second Examinations of the Examining Board in England, and who shall have completed the curriculum of medical study required by the regulations, will be eligible for admission to the Third or Final Examination of the Board two years after his having passed all the other required examinations; any candidate so admitted to examination will be required to pay a fee of five guineas; and any such candidate who shall have passed such Third or Final Examination shall, on the further payment of not less than thirty guineas, and subject to the by-laws of each College, be entitled to receive the licence of the Royal College of Physicians of London and the diploma of Member of the Royal College of Surgeons of England."

"4. Any member of a Scotch or Irish University where it is required that not less than two of the four years' curriculum of professional education shall have been spent in residence at the University, who shall have passed such an examination or examinations at his University as shall comprise the subjects of the First and Second Examinations of the Examining Board in England, and who shall have completed the curriculum of medical study according to the regulations required by his University, will be eligible for admission to the Third or Final Examination of the Board two years after his having passed all the other required examinations; any candidate so admitted to Examination will be required to pay a fee of five guineas; and any such candidate who shall have passed such Third or Final Examination shall, on the further payment of not less than thirty guineas, and subject to the by-laws of each College, be entitled to receive the licence of the Royal College of Physicians of London and the diploma of Member of the Royal College of Surgeons of England."

The report of the same committee of Nov. 3rd, which was adopted subject to the approval of the Royal College of Physicians, was as follows:—"That, in accordance with the request of the two Colleges, they had considered the following resolutions adopted at a meeting of the deans of the several medical schools in London, and subsequently approved by the committees of the respective schools—viz.:—

'1. That it is desirable that every candidate who has failed to pass his examination at the Conjoint Board in any or all of the following subjects—namely, Chemistry, Elementary Anatomy and Elementary Physiology, should be required, before readmission to examination, to bring from his medical school a certificate of satisfactory instruction in the subject or subjects in which he has been referred.'

'2. That it is desirable that all certificates of attendance in the schedules for the several examinations of the Conjoint Board should contain the words 'to the satisfaction of the lecturer or teacher' in each subject.'

"With respect to the first resolution, the committee recommended that every candidate who fails to pass the examination in elementary anatomy and physiology or the examination in elementary anatomy or elementary physiology, as the case may be, shall be required before admission to re-examination to produce a certificate of having received instruction in the subject or subjects in which he has been referred, during a period of not less than three months subsequently to the date of his reference, but the committee did not recommend any alteration in the regulations now in force relating to re-examination in chemistry. The committee further recommended that the second resolution be adopted by the two Colleges. The committee also reported that they had received a communication from Mr. Jas. Smith Turner, on behalf of the British Dental Association, asking for permission for that Association to hold its annual meeting at the Examination Hall on the Aug. 20th, 21st, and 22nd next; and they recommended that rooms in the Examination Hall be placed at the disposal of the British Dental Association on that occasion."

We have been asked to publish the following correspondence:—

(COPY.)

The Crescent, Birmingham, Nov. 15th, 1890.

SIR,—I have to acquaint you that the Council, on the 13th inst., adopted the following resolution—viz.:

"That in reference to the resolution carried at the annual meeting of Fellows and Members on the 6th instant, the mover and seconder of such resolution be referred to the resolution adopted by the Council on Nov 8th, 1888—viz.:

"'The Council regret that they cannot accede to the requests contained in the resolutions carried at the meeting of the Fellows and Members on the 1st instant (Nov. 1st, 1888). It seems to the Council best, in the interests of the College, that the discussion on the subjects which have been in dispute should close with the grant of the Supplemental Charter. They cannot believe that any advantage is likely to arise from reopening questions which have been fully considered, and, on behalf of the College, they trust that these questions will now be allowed to rest.'"—I am, Sir, your obedient servant,

Lawson Tait, Esq. (Signed) EDWARD TRIMMER, Secretary.

Nov. 18th, 1890.

DEAR SIR,—I have to acknowledge with thanks your letter of the 15th inst. conveying to me the resolution of the Council taken by them on the 13th. I regret to say that I cannot regard the reply of the Council as at all satisfactory, and I am quite sure that those who constituted the meeting held at the College on the 6th inst. will not accept it as a settlement of the issues. They differ from the Council, *toto cœlo*, in believing that every advantage is likely to arise from discussing the questions which the Council would desire now to be allowed to rest. I am sure they will not be allowed to rest.

I am, Sir, yours obediently,

Edward Trimmer, Esq. LAWSON TAIT.

Royal College of Surgeons of England, Lincoln's-inn-fields, Nov. 14th, 1890.

SIR,—In reference to the statement forwarded by you of the specific points brought before the Committee by the deputation of Fellows, I have to acquaint you that the Council on the 13th instant adopted the following resolutions:—

I. (*a*) That Mr. Wilde be instructed to prepare a case for submission to the Attorney-General and Mr. Paget for their opinion as to whether the Council possesses the power to summon a meeting of the Fellows of the College separately from the Members. (*b*) That the consideration of the question of providing a common room in the College for the Fellows be postponed.

II. That a Committee be appointed to consider and report to the Council on the rules relating to voting papers for the election to the Council.

III. That with respect to the proposal relating to the negotiations with the University of London, the deputation of Fellows be informed that the Council have not the power to grant their request.

I am, Sir, your obedient servant,

H. W. Allingham, Esq. EDWARD TRIMMER, Secretary.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the First Professional Examination for the diploma of Fellow at a meeting of the Board of Examiners on the 12th inst.:—

William Robert Smith, student of King's College, and Henry Rochfort-Brown, of St. Bartholomew's Hospitals. Fourteen candidates were referred.

Passed on the 13th inst:

Herbert Edward Durham, of Cambridge University and Guy's Hospital. Eleven candidates were referred.

The following gentlemen, having passed the necessary examinations, were admitted Licentiates in Dental Surgery:

Acton, George Harris, Woodlands-road.
Appleton, James Enderby, M.R.C.S., Blackheath.
Buckley, William Henry, Oldham.
Bull, Ernest Rogers, Brecknock-road, Camden Town.
Burton, Francis, Norwood-road.
Cutts, Frederick Edward, Lancaster.
Davies, William Herbert, Gunnersbury.
Dormer, Henry, Horsley, Gloucestershire.
Efford, Charles Fursman, Brockley.
Hall, Frederick George, Caledonian-road.
Holford, Walter Stanley, M.R.C.S., Sutton.
Keevil, George Mulready, Keppel-street.
Larbalestier, William Robert, Ilminster-gardens.
Lombardi, George, Great Marlborough-street.
Marson, Cyril Darby, Stafford.
May, William, Thorverton.
Moore, Alfred, Goodman's-fields.
Parsons, Ernest, Horsheath, Cambs.
Schelling, Carl, Upper Gloucester-place.
Summers, James West, Norton Folgate.
Tomlyn, Louis Crowhurst, Florence-road.
Turner, Joseph George, Grange-park, Ealing.
Wheatley, William Henry, St. James's-road.
White, Percy Harry, M.R.C.S., Cadogan-square.
Woolf, Michael Yeatman, Marlborough-place.

UNIVERSITY OF LONDON.—The following is a list of the successful candidates at the M.B. Examination held in October last:—

First Division.—Francis Chas. Abbot, B.Sc., St. Thomas's Hospital; Robt. Cozens Bailey, St. Bartholomew's Hospital; Stephen Henry Bates, University College; Annette Matilda Benson, B.Sc., London School of Medicine for Women; Ellen Margaret Tinné Berthon, London School of Medicine and Royal Free Hospital; David Brown, B.Sc., London Hospital; John Henry Bryant, Guy's Hospital; William Marshall Davidson, St. George's Hospital; William McAdam Eccles, St. Bartholomew's Hospital; Percy Chas. Evans, University Edin., and Guy's Hospital; Ellen Margaret Farrer, London School of Medicine and Royal Free Hospital; John Fawcett, Guy's Hospital; Frank Grange, Charing-cross Hospital; Duncan MacBean Greig, University College; Frederick William Hall, Guy's Hospital; Richard Tanner Hewlett, King's College; Aubray Dallas P. Hodges, London Hospital; Edward Victor Hugo, St. Bartholomew's Hospital; Henry Brunton Kitchin, University College; Arnold William W. Lea, Owens College and Manchester Royal Infirmary; Randle Leigh, B.Sc., University Colleges, London and Liverpool; James Sinclair McGowan, B.Sc., Owens College and Manchester Royal Infirmary; Alice McLaren, London School of Medicine for Women; Charles James Martin, B.Sc., St. Thomas's Hospital; Albert Edward Norburn, Guy's Hospital; T. Leighton Pennell, B.Sc., University College; Hugh James M. Playfair, King's College; Joseph Stewart Richards, Guy's Hospital; Richard Walter Richards, St. Bartholomew's Hospital; Thomas Frank Ricketts, B.Sc., and John Robertson, Guy's Hospital; James Harry Sequeira, London Hospital; Sidney Herbert Snell, and Herbert Tilley, University College; Ethel Newton Tribe, London School of Medicine for Women; Holburt Jacob Waring, B.Sc., St. Bartholomew's Hospital; Henry Woolmington Webber, Guy's Hospital; Lewis Williams, University College.

Second Division.—Harold William Colmer Austen, St. Bartholomew's Hospital; Robert Alfred Bindley, Guy's Hospital; Herbert George Graham Cook, St. Bartholomew's Hospital; Albert Ernest Cope, College of Medicine, Newcastle-on-Tyne; Harry Corner and Bertrand Edward Dawson, B.Sc., London Hospital; Philip Rashleigh Dodwell, University College; Emily Louisa Dove, London School of Medicine for Women; George John Eady, King's College; Robert Henry Elliot, St. Bartholomew's Hospital; George Sinclair Farquharson, London Hospital; Frances Harris, London School of Medicine for Women; William Speed Hayman and Arthur Egerton Hensley, King's College; Charles Imray Kirton, London Hospital; Algernon Wilson Lyons, King's College; Minnie L. C. Madgshon, London School of Medicine and Royal Free Hospital; Joseph Moore, St. Bartholomew's Hospital; John Desmond E. Mortimer, St. Bartholomew's and Westminster Hospitals; Frederick Layton Orr, University College; Thomas George Stevens, Guy's Hospital; Helen Mary Wilson, London School of Medicine for Women; Thomas Jason Wood, University College.

MEDICAL MAGISTRATE.—Mr. William Hardman, M.B. Edin., L.R.C.P. Lond., M.R.C.S., has been placed on the Commission of the Peace for the County of Lancashire.

THE ROYAL SOUTHERN HOSPITAL, LIVERPOOL.—The first annual *réunion* of the present and past students of this hospital took place last week at the Falcon Restaurant, Lord-street. Mr. R. Jones, presided. The company was fully representative and well attended by the medical staff of the institution.

HENLEY UNION.—The offer of Mr. W. H. Smith to erect and furnish an infectious disease hospital for the Henley district having been accepted by the sanitary authority, a committee has been appointed to carry out any arrangements that may be necessary to give effect to the gift.

BEQUESTS AND DONATIONS TO HOSPITALS.—The late Mr. Thomas Russell, of Bridge of Allan, bequeathed £1000 to the Infirmary, Aberdeen.—Mr. George Beer, of Canterbury, by his will left £100 each to the Kent and Canterbury Hospital, and the Canterbury Dispensary.—Mr. Abram Brookshank, late of Sheffield, bequeathed £100 to the Sheffield General Infirmary, £50 to the Public Hospital and Dispensary, £50 to the Jessop Hospital for Women, and £50 to the Sheffield Children's Hospital.—A donation of £100 has been received from the Rev. A. Gardner, by the treasurer to the Brechin Infirmary, to be applied to the capital fund of the Institution.—Mr. Henry Lammin, late of Brixton, bequeathed £500 to the Newark-on-Trent Hospital and Dispensary, £50 each to the Nottingham Eye Infirmary and the Nottingham General Hospital.—The late Mr. Aldam, of Frickley Hall, Yorkshire, bequeathed £100 each to the Leeds General Infirmary and the Newcastle-on-Tyne Infirmary, and £200 to the Yorkshire Institution for the Deaf and Dumb.—The late Mr. John Gray Chalmers, of Banchory, N.B., has left £1000 each to the Royal Infirmary, the Incurable Hospital, and the Convalescent Hospital, all of Aberdeen.—The Countess Bessborough bequeathed £250 to the Rotunda Lying-in Hospital, Dublin.

HOSPITAL SATURDAY. — The Lord Mayor, in response to the request of an influential deputation who waited upon him at the Mansion House, has consented to be the President of the Hospital Saturday Fund during his year of office.

THE COLLEGE OF STATE MEDICINE.—At a recent meeting of the Council, at 101, Great Russell-street, the following gentlemen were elected Associates of the College:—C. R. Macdonald, M.D., D.P.H. Camb. (Beith); John Rowat, M.B., C.M., D.P.H. Glasgow (Kilmarnock); and John King Warry, M.B., D.P.H., R.C.P. & S. Eng. (Bethnal-green).

CONVALESCENT HOME FOR MEN, LLANFAIRFECHAN.—This institution has lately been enlarged and renovated, and many structural improvements effected in the building to meet its growing requirements. During the present year 118 patients were admitted, a large majority of whom were discharged greatly benefited in health. Particulars regarding admission may be obtained on application to Miss Butler at the Home.

FOOTBALL CASUALTIES.—In a match at Scarborough on Saturday last, Scarborough against Kirbymoorside (Association game), a player received severe injury to his knee. A youth, whilst playing football at Everton last week, accidentally fell, hurting his forehead. He subsequently became ill, and died on Sunday morning from an injury to the brain. Whilst playing in an Association match at Heywood on Saturday, a young man broke his arm and sustained other injuries.

BRITISH NURSES' ASSOCIATION.—The third annual conversazione will be held on Dec. 5th, at 9 P.M., at the Princes' Hall, and in the Galleries of the Royal Institute of Painters in Water Colours, Piccadilly. Last year nearly 800 nurses were present in the uniforms of their respective institutions, and this year measures will be taken to afford accommodation for a much larger number. Members of the Association can obtain cards of admission for their friends, price 5*s.* each, and cards will be issued to the general public at half a guinea each.

ANATOMICAL SOCIETY OF GREAT BRITAIN.—At the annual meeting, to be held on Wednesday next, after the election of officers, the following resolution will be proposed by the Council:—"That the following be made a rule of the Society: 'Rule 22.—The Council are empowered to nominate a limited number of persons who have distinguished themselves in promoting the science of anatomy for election as honorary members of the Society. The election shall take place at an annual meeting, and a list of the nominations shall be sent to each member with the notice of the meeting.'"

PROVINCIAL SUNDAY AND SATURDAY HOSPITAL COLLECTIONS.—*Sunday Collections:* The Hertford collection realised £155 4*s.* 6*d.*; the Ware collection produced £61 2*s.* 1*d.*; the eighth annual South London demonstration, held in July last, in aid of the funds of the Victoria Hospital for Children, London and Margate, amounted, net, to £262 12*s.* 9*d.*; the Bournemouth collection netted £300 16*s.* 4*d.* *Saturday Collections:* The Tamworth collection, after deducting expenses, amounted to £135 3*s.* 7*d.*; the Tunbridge Wells collection produced £234 12*s.*; the Derbyshire Infirmary fund collection amounted to, net, £1086 15*s.* 9*d.*; the Croydon collection realised, less expenses, £380, which has been handed over to the Croydon General Hospital.

WESTMINSTER HOSPITAL MEDICAL SCHOOL.—At the annual dinner at the "Criterion" on Saturday, 15th inst., nearly sixty sat down to dinner, consisting of members of the staff and a large number of students. Dr. W. G. Grigg was in the chair. The usual toasts were given: "The Queen"; "The Teaching Staff of the School," ably responded to by Mr. Nitch-Smith; "Sports and Sporting Men," to which Mr. Nitch-Smith also replied in a somewhat amusing speech; "The Ladies"; "The Chairman," by Mr. W. Lewis; and a vote of thanks to Mr. Morris, the honorary treasurer and secretary, to whose indefatigable exertions most of the success was due. The gathering broke up, after a most enjoyable evening, at about 11.45.

ROYAL INFIRMARY, GLASGOW.—This institution is increasing in the good work done in the town and district. During the past year 1755 out-door and 200 in-door patients were treated. The financial position was satisfactory. Surrounding property had been purchased, with the view of external improvements, and further extensions of the institution are contemplated.

MEDICAL DEFENCE UNION.—The first annual meeting of the metropolitan division of this Union was held in the Council-room of the British Medical Association on the 13th inst., Sir Morell Mackenzie in the chair. The membership of the division was estimated at about 454; the union itself numbered 1600 members. After referring to several matters of interest, the report showed that prosecutions of illegal practitioners had been for the time rendered too expensive owing to the fines obtained being claimed by the receiver for the Metropolitan police under the Metropolitan Police Act. The Union hoped soon to obtain a change in the law. Three cases of covering were brought before the committee, but their main energies had been directed to improving their organisation.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at midnight on November 18th, 1890.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	292	49	..	81	6	428	442
North-Western Hospital	341	42	..	19	1	403	443
Western ,,	171*	17	..	14	1	203	262
South-Western ,,	204	..	..	..	..	264	340
South-Eastern ,,	258	36	1	58	2	355	454
Northern ,,	460	28	..	26	..	514	480
Gore Farm ,,	261	..	..	..	..	261	300
Totals	2047	172	1	198	10	2428	2729

* 1 infant and mother.

BOOKS ETC. RECEIVED.

BLACK, ADAM & CHARLES, Edinburgh.
The Collected Writings of Thomas De Quincey. By David Masson. Vol. XIII. New and Enlarged Edition. 1890. pp. 448.

BLAKISTON, SON, & Co., Philadelphia.
Transactions of the American Surgical Association. Edited by J. Ewing Mears, M.D. Vol. VIII. 1890. pp. 290.

CASSELL & COMPANY, London.
A Guide to Health; for the Use of Soldiers. By Surgeon-Major R. C. Eaton, Medical Staff. 1890. pp. 96.

CHURCHILL, J. & A., New Burlington-street, London.
A Guide to Operations on the Brain. Illustrated. By Alec Fraser, Professor of Anatomy, Royal College of Surgeons, Ireland. 1890. The Dignity of Woman's Health, and the Nemesis of its Neglect. By Robt. R. Rentoul, M.R.C.S. 1890. pp. 144. Price 3s. 6d.

COUSINS & Co., 338, Strand, London.
Epidemics; their Origin and Prevention. By J. F. Palmer, L.R.C.P. Lond. 1890. pp. 90. Price 2s. 6d.

FENN, J. G., Glebe-street, Stoke-upon-Trent.
Proceedings of the Staffordshire Branch of the British Medical Association, 1874 to 1890. pp. 190.

KEGAN PAUL, TRENCH, & Co., London.
My Friends at Sant' Ampelio. Parts I. and II. By J. A. Goodchild. 1890. pp. 336.

KING, SELL, & RAILTON, Gough-square, London.
"Man's Revenge": Personal Reminiscences, with Quotations from "Causes Célèbres." By Donald Nicoll, Assoc. Inst. C.E., &c. pp. 287, with many Illustrations.

LIVINGSTONE, E. & S., Edinburgh.
Notes on Pathology. By J. R. Whitaker. 1890. pp. 245.

MASSON, GEORGES, Boulevard Saint Germain, Paris.
Leçons de Clinique Médicale. Par le Dr. J. Grasset. 1891. pp. 758.

STOCK, ELLIOT, Paternoster-row, London.
The Love-Song of Barbara. By Chas. J. Whitby. 1890. pp. 92.

SWEET & MAXWELL, Chancery-lane, London.
A Treatise on the Law and Practice of Lunacy. By H. M. R. Pope, Barrister-at-Law. Second Edition, by J. H. Boome and V. de S. Fawke, Barristers-at-Law. 1890. pp. 373.

THE ASSOCIATION OF AMERICAN PHYSICIANS, Philadelphia.
Transactions of the Association of American Physicians, 1890. Vol. V. pp. 275.

VAIL, J. H., & COMPANY, New York.
A Treatise on Massage, Theoretical and Practical. By Douglas Graham, M.D. Second Edition, revised and enlarged. 1890. pp. 342.

Republic of Uruguay; International Exhibition of Mining and Metallurgy, Crystal Palace, London, 1890. Parts I. and II. (Issued by Authority of the Consul-General of Uruguay, London, 1890).—Revue Internationale de Bibliographie; dirigée par le Dr. J. Rouvier; Vol. II., No. 3, September, 1890 (J. Lechevalier, Paris).—Physiological Quantities or Constants; arranged by V. H. Wyatt Wingrave, M.R.C.S. (H. Kimpton, London, 1890), price 1s.—The China Medical Missionary Journal, Vol. IV., September, 1890, No. 3; edited by Percy Matthews, M.D. (Kelly and Walsh, Shanghai, 1890).—Verhandlungen der Gesellschaft Deutscher Naturforscher und Aerzte, September, 1890; von dem Generalsekretär Dr. Oscar Lassar (F. C. W. Vogel, Leipzig, 1890).—Preventive Inoculation; by Frank S. Billings, M.D. (Medical Press Company, Philadelphia, 1890).—The Theory and Practice of Nursing; a Text-book for Nurses; by Percy C. Lewis, M.D. (The Hospital); price 1s.—Thirteenth Annual Report of the Health Commissioner, City of St. Louis, Mo., 1889-1890; by Geo. F. Dudley, M.D. (Levison & Blythe, St. Louis, 1890).—The Official Gazette of the United States Patent Office, issued October, 1890; Vol. LIII., No. 4 (Government Printing Office, Washington, 1890).—Der Hypnotismus und seine anwendung in der praktischen Medicin; von Dr. O. G. Wetterstrand (Urban & Schwarzenberg, Wien und Leipzig, 1891).—Johns Hopkins University, Baltimore: Studies from the Biological Laboratory; Vol. IV., No. 7 (N. Murray, Baltimore, 1890).—Formulæ in addition to those in the British Pharmacopœia used at the Central London Throat, Nose, and Ear Hospital; compiled by the Hon. Medical Staff (The Hospital, Gray's-inn-road, London), 1890; price 1s.—Income Tax to pay or not? by the Ex-Crown Surveyor of the Income Tax Inquiry Office (published at the Office, Serjeants' Inn, Fleet-street, London); price 6d.—Loaded Dice: a Story of Modern Life; by Paul Merritt; illustrated (Gilbert Dalziel, Shoe-lane, Fleet-street, London, 1891); price 1s.—Transactions of the Medical and Chirurgical Faculty of the State of Maryland, Ninety-second Annual Session, 1890 (Griffin, Curley, & Co., Baltimore).

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

ARUNDELL, SHIRLEY W., M.R.C.S., has been appointed Medical Officer for the Pembridge District of the Kingston Union.

BATES, S. H., M.B.Lond., M.R.C.S., L.R.C.P., has been appointed Senior Obstetric Assistant to University College Hospital.

BATTERHAM, J. W., M.B., B.S. Lond., F.R.C.S., has been appointed Assistant Surgeon to the Hastings, St. Leonards, and East Sussex Hospital.

BOYCOTT, ARTHUR NORMAN, M.R.C.S., L.R.C.P. Lond., has been appointed Third Assistant Medical Officer to the London County Asylum, Cane Hill.

BRETT, J. T., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Pathologist to the Alfred Hospital, Melbourne.

BROCK, Mr. ERNEST, has been reappointed Resident Medical Officer to the Royal Hospital for Diseases of the Chest, City-road.

CASSALL, C. E., has been appointed Public Analyst for the Kesteven Division of Lincolnshire, vice Graham.

COOKE, JOHN, M.R.C.S., has been reappointed Honorary Surgeon to the Alfred Hospital, Melbourne.

CUTFIELD, A., M.R.C.S., has been appointed Medical Officer for the Sollershope District of the Ross Union, vice Fernandez, resigned.

DAVIDSON, JOHN, M.B. Lond., M.R.C.S., has been appointed Medical Officer for the Hillingdon District of the Uxbridge Union, vice Ferris, resigned.

DAVIES, A. B., L.R.C.P.Lond, M.R.C.S., has been appointed Medical Officer for the Stroud District of the Stroud Union, vice Wethered, resigned.

DAY, W. W., M.D. Durh., L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer of Health for Edmonton.

DE JERSEY, WALTER B., B.A., M.B., B.C., &c., has been appointed Resident Medical Officer to the Evelina Hospital for Sick Children, vice Gardner, resigned.

DREAPER, WM. G., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Middleham Western District of the Leyburn Union, vice Pauli, resigned.

ELSNER, F. W., L.K.Q.C.P., F.R.C.S. Irel., has been reappointed Honorary Medical Officer for the Skin Department of the Alfred Hospital, Melbourne.

EMBLING, W. H., L.R.C.P. Lond., L.F.P.S.Glasg., has been reappointed Honorary Medical Officer to the Alfred Hospital, Melbourne.

GALLAGHER, JAS. W., L.R.C.S., L.M.K.Q.C.P.Irel., has been appointed Medical Officer for the Killybegs Dispensary of the Glenties Union, vice McFeely.

GORDON, JAS., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Kilkeel No. 1 Dispensary of the Kilkeel Union.

GRAHAM, J. T., M.D Glasg., M.R.C.S., has been appointed Medical Officer of Health to the Perth County Council.

HARRICKS, F. M., M.K.Q.C.P., L.R.C.S. Irel., has been reappointed Honorary Surgeon to the Alfred Hospital, Melbourne.

JAMIESON, JAS., M.D., C.M. Glasg., has been reappointed Honorary Medical Officer to the Alfred Hospital, Melbourne.

LAWFORD, J. B., has been appointed Assistant Surgeon to the Royal London Ophthalmic Hospital, Moorfields.

LILLIES, H., L.R.C.P. Edin., M.R.C.S., has been reappointed Honorary Medical Officer to the Alfred Hospital, Melbourne.

LING, HAROLD C., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the North Keighley District of the Keighley Union.

LOWNDS, HENRY A., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for the Whitley Upper Urban Sanitary District of the Huddersfield Union.

MAUDSLEY, H., M.D. Lond., M.R.C.P., has been reappointed Honorary Medical Officer to the Alfred Hospital, Melbourne.

MCGAURAN, ARTHUR, L.K.Q.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Bawnboy Union Workhouse, vice Hearn, deceased.

MONTGOMERY, ROBERT J., M.B., B.Ch. Dub., F.R.C.S. Irel., has been appointed Examiner in Materia Medica and Botany to the Pharmaceutical Society of Ireland.

NEWTON, LANCELOT, M.R.C.S., has been appointed Medical Officer of Health for the Rural Sanitary Districts of the Huntingdon Union.

OSBURN, HAROLD BURGESS, M.R.C.S., L.R.C.P., has been appointed House Physician to the General Lying-in Hospital, vice Harold Low, resigned.

PEACHEY, GEO. C., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer and Public Vaccinator for the Brightwalton District of the Wantage Union, vice Wood, deceased.

RENDALL, JOHN, L.R.C.P. Lond., F.R.C.S., has been reappointed Medical Officer of Health for the Lymington Union District.

RUDALL, JAS. THOS., F.R.C.S., has been reappointed Honorary Surgeon to the Alfred Hospital, Melbourne.

SCHLESINGER, R. E., M.B. Edin., M.R.C.S., has been reappointed Honorary Surgeon to the Alfred Hospital, Melbourne.

SHIMELD, JAS., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Fourth District of the Romford Union.

SMELLIE, HUGH M., M.B., C.M. Edin., has been appointed Visiting Surgeon to the Memorial Hospital, Jarrow.

SMITH, Dr. FRED. J., has been appointed Assistant Physician to the Royal Hospital for Diseases of the Chest, City-road, vice Dr. E. Stewart, resigned.

SMITH, W. R., M.D. Aberd., L.R.C.P., L.R.C.S. Edin., has been appointed Analyst for the Woolwich District, vice H. Smith.

SPEECHLY, H. M., M.R.C.S., L.R.C.P., has been appointed House Physician to the London Hospital.

STEPHENSON, F., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Prestwich Urban Sanitary District of the Prestwich Union.

STEVENSON, T., M.B., C.M. Edin., has been appointed Analyst for the Borough of Tunbridge Wells.

TEMPLETON, PERCY, M.R.C.S., L.R.C.P., has been appointed House Physician to the Great Northern Central Hospital, vice Lang.

THYNE, GEO., M.B., M.S. Edin., has been appointed Medical Officer to the Sick Children's Hospital, Town Moor, Newcastle-on-Tyne.

WATT, WM., L.R.C.S. Edin., has been appointed Police Surgeon for the Lochee District, Dundee.

WELLBURN, EDGAR D., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Sowerby District of the Halifax Union.

WHITTINGTON, THOS. P., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for the Rural Sanitary District of the Neath Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BOLTON INFIRMARY AND DISPENSARY.—Senior House Surgeon. Salary £120 per annum, increasing £10 per annum to £150, with furnished apartments, board, and attendance.

CANCER HOSPITAL (FREE), Fulham-road, S.W.—Dispenser. Salary £100 per annum, with dinner and tea.

CENTRAL LONDON SICK ASYLUM DISTRICT.—Assistant Medical Officer and Dispenser for the Asylum in Cleveland-street. Salary £100 per annum, with board and residence.

COUNTY BOROUGH OF SHEFFIELD.—Resident Medical Officer for the Winter-street Hospital for the Treatment of Cases of Infectious Diseases. Salary £200 per annum, with board, lodging, and attendance. (Apply to the Town Clerk, Town Clerk's Office, Sheffield.)

COUNTY COUNCIL OF LANARK.—Medical Officer for the District of the Middle Ward. Salary £500 per annum, with £100 to cover all expenses. (Apply to the District Clerks, Hamilton.)

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon. Salary to commence at £85 per annum, with board, residence, and washing in the house.

DORSET COUNTY ASYLUM.—Assistant Medical Officer. Salary £135 per annum, with board &c. (Apply to the Medical Superintendent.)

ESSEX AND COLCHESTER GENERAL HOSPITAL.—House Surgeon and Apothecary. (Apply to the Secretary, Colchester.)

GUARDIANS OF KENSINGTON.—Medical Officer for No. 2 relief District of that parish. Salary £160 per annum, with such extra fees for Midwifery and Surgical Operations as are allowed by the Local Government Board's Order. Medicines and drugs provided by the Guardians. (Apply at the Guardians' Offices, Marloes-road, W.)

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Resident Medical Officer as House Surgeon for one year. Salary £50 per annum, with board and residence in the Hospital.

LIVERPOOL DISPENSARIES.—Two Assistant Surgeons. Salary £80, with apartments, board, and attendance in each case. (Apply to Mr. Greene, Leith Offices, 34, Moorfields, Liverpool.)

LONDON HOSPITAL, Whitechapel-road, E.—Surgical Registrarship. Salary £100 a year.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer for not less than two years. Salary £150 per annum, with board and residence.

MANCHESTER ROYAL INFIRMARY (MONSALL FEVER HOSPITAL).—Assistant Medical Officer at Monsall Fever Hospital for twelve months. Salary £100 per annum, with board and residence.

METROPOLITAN ASYLUMS BOARD.—SOUTH-WESTERN FEVER HOSPITAL, Stockwell.—Resident Clinical Assistant for three months. Remuneration: residence and rations.

PARKER DIXON, Esq., 13, Gray's-inn-road, London, W.C.—Assistant Medical Officer in a large Metropolitan Lunatic Asylum. Salary £100 a year, with board, lodging, washing, &c.

SECRETARY, LONDON SOCIETY FOR PROMOTING CHRISTIANITY AMONGST THE JEWS, 16, Lincoln's-inn-fields, London, W.C.—Medical Missionary to the Jews at Safed.

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Physician.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House Surgeon. Salary to commence at £100 per annum, increasing £10 per annum to £150, at the discretion of the Committee, with board, lodging, and washing.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, London.—Honorary Assistant Physician.

TAUNTON AND SOMERSET HOSPITAL.—Honorary Dental Surgeon. (Apply to the Secretary, 13, Hammet-street, Taunton.)

WEST LONDON HOSPITAL, Hammersmith-road.—House Physician and House Surgeon for six months. Board and lodging provided.

WOLVERHAMPTON INFIRMARY.—Resident Assistant for not less than six, and not more than twelve, months. Rooms, with board and washing, provided.

Births, Marriages, and Deaths.

BIRTHS.

BALDOCK.—On Nov. 18th, at 180, Earl's Court-road, S. Kensington, the wife of Alfred Baldock, M.B., M.R.C.S., of a son.

BARRON.—On Nov. 17th, at 24, Hoghton-street, Southport, the wife of Hubert G. Barron, M.R.C.S., L.R.C.P., of a daughter.

DAVIS.—On Nov. 16th, at "Sunnydene," Sidcup, Eleanor, the wife of Geo. Wm. Davis, M.B., of a son.

DOWNES.—On Nov. 13th, at Danehurst, Middle-lane, Hornsey, the wife of Howard Downes, L.R.C.P., M.R.C.S., of a daughter.

HALES.—On Nov. 11th, the wife of R. T. Hales, M.D., of Holt, Norfolk, of a son.

MILEY.—On Nov. 18th, at Belsize-avenue, Hampstead, the wife of Miles Miley, M.B., of a son.

NINNIS.—On Nov. 8th, at the Royal Naval Hospital, Hong Kong, the wife of Deputy Inspector-General Ninnis, of a son.

PERKINS.—On Sept. 20th, at "Beaconsfield," Patea, New Zealand, the wife of Alfred Temple Perkins, M.R.C.S. Eng., L.R.C.P. Edin., of a son.

PESKETT.—On Nov. 18th, at Oakover, Burnham, Somerset, the wife of A. W. Chalmers Peskett, M.B., B.C. Cantab., of a daughter.

TATHAM.—On Oct. 27th, at Up Park, Kingston, Jamaica, the wife of Surgeon C. J. Willmer Tatham, Army Medical Staff Corps, of a daughter.

MARRIAGES.

BROWNE—BARKER.—On Nov. 12th, at Melbourne, Harold Elliott Browne, M.R.C.S., L.R.C.P., of Sydney, N.S.W., elder son of Rev. W. E. Browne, Rector of West Walton, to Barbara Mareli, eldest daughter of Thomas Barker, Esq., of Brooklands, Albrighton.

DAY—MALLINSON.—On Nov. 11th, at St. Leonard's Church, Streatham, Albert Bryan Day, of Isleworth, Surgeon, to Norah Mallinson, daughter of the late John Mallinson, of Huddersfield.

MARSDEN—THOMPSON.—On Nov. 13th, at Isleworth, Dr. Herbert Harrison Marsden, of Ormskirk, Lancashire, son of the late Ellis Marsden, of Liverpool, to Edith Mary, only daughter of R. F. Thompson, of Arnside, Westmoreland.

MILLES—LESLIE.—On Nov. 12th, at the Free Church, Grange, Banffshire, N.B., Walter Jennings Milles, M.D., F.R.C.S. Eng., of Shanghai, son of the Rev. Thomas Milles, of Yalding, Kent, to Elizabeth Murray Leslie, second daughter of Alexander Francis Leslie, Esq., of Braco, near Keith, N.B.

DEATHS.

BELLWOOD.—On Nov. 11th, at Clyde-road, Addiscombe, Dr. John Bellwood, aged 67.

BIRD.—On Oct. 31st, at Cobham, Virginia, U.S.A., suddenly, Robert Bird, Deputy Surgeon-General, Indian Medical Service.

BISHOP.—On Nov. 6th, at The Studios, St. John's-wood, George Houlton Bishop, M.R.C.S., aged 39.

CHAPMAN.—On Nov. 11th, at Croydon, Edmund Chapman, M.R.C.S., late of Brighton, aged 64.

ELWIN.—On Nov. 17th, at Clyde-road, Redland, Bristol, John Fountain Elwin, F.R.C.S., only son of the late Fountain Elwin, Colonel of 44th Regiment, of the county of Norfolk.

RATHILL.—On Nov. 18th, at Westerham, Kent, R. Mostyn Rathill, M.R.C.S., in the 77th year of his age.

STRANG.—On Nov. 14th, at his residence, Shilling-hill, Alloa, Walter James Strang, M.B., C.M. Edin., aged 36.

WATERS.—On Nov. 11th, at his residence, Nicholas-street, Chester, and of Sarnau, Carmarthen, Edward Waters, M.D. Edin., M.D. Dub. (Honoris causâ), F.R.C.P. Edin., F.K.Q.C.P. Irel. (Honoris causâ).

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 20th, 1890.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
Nov. 14	30·07	S.W.	43	42	61	58	40	.	Foggy
,, 15	30·14	N.W.	52	49	70	53	42	·07	Overcast
,, 16	30·28	E.	50	49	..	56	49	.	Bright
,, 17	30·40	N.W.	44	44	61	54	44	·02	Foggy
,, 18	30·40	S.W.	53	51	62	57	44	·01	Overcast
,, 19	30·46	S.W.	54	53	62	58	53	·04	Overcast
,, 20	30·49	W.	54	54	62	58	54	·01	Raining

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET to be addressed "To the Publisher."

We cannot undertake to return MSS. not used.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES.

IN our notice on Nov. 1st of the last issue of this valuable work, edited by Dr. Sajous, we inadvertently omitted to give the name of the publisher, Mr. F. A. Davis, and the address of the office in London, 40, Berners-street, W.

M.—It would not be desirable for "A." to refuse to lend an instrument for a time to a medical neighbour. Such amenities are common and pleasant among men. Of course there is reason in borrowing as in all other things, and the privilege should not be abused.

Jones.—There would be no harm; but is it necessary? It would look foreign.

A MIDDLE PASSAGE FOR CATTLE.

To the Editors of THE LANCET.

SIRS,—I venture to appeal to your well-known sense of fairness to afford me the opportunity for a brief reply to the remarks under the above heading appearing in your issue of the 8th inst, in so far as they apply to the Transatlantic cattle traffic, for although the charges of cruelty have been disproved again and again every reassertion of them in a journal of influence must be met with fresh refutation. That the so-called "horrors" of the traffic have their only existence in the lively imagination of interested parties is proved by the fact that the actual percentage of loss on the enormous number of 380,000 very prime beasts brought across the Atlantic in twelve months was about 2 per cent., and if additional proof be needed of the small risk attached to the passage I may inform you that these animals can be insured against "all risks," including mortality, at rates varying from 1½ to 2½ per cent. premium, according to season.

The assertion that animals are brought to shipment in a suffering and exhausted condition, and closely penned on board ship—so that a standing posture only is possible—is entirely untrue, and absurd on the face of it when it is considered that such a method of procedure would bring certain loss to all interested in the cattle. The object of the shippers and all concerned is to land the animals in a sound and marketable condition, for the shipper always takes at least a fourth, and frequently half, of the "insured" risk himself; the insurers who take the remainder have inspectors at the port of embarkation to see that the cattle are shipped in proper condition and have suitable accommodation; whilst the officers of the ship have a direct pecuniary interest in bringing the cattle safely to market. The persistency with which statements are made—such as that "the animals cannot lie down," when sufficient space for the purpose is actually fixed under Government regulations, and that "animals must be kept alive, by any cruel method of stimulating flagging vitality"—is simply astounding, since it has been pointed out times without number that the insurance companies pay daily, without the slightest question, for animals which have been killed on the passage to avoid suffering and the carcases thrown overboard. The suggestion that the fodder provided is deliberately wasted is a crowning absurdity, and on a par with the assertion that the cattle are sent to sea with the certainty of death before reaching the market for which they are intended, both of which propositions involve the conclusion that the cattle shippers literally throw their money into the sea.

It now only remains for me, Sirs, to categorically deny the allegations put forward, and to say that ample ventilation is provided by the best known appliances; measures are taken to ensure soundness of cattle at embarkation, serious injury on the voyage is mercifully terminated, and cruelty on the part of the cattle attendants, who are supervised by a specially trained and educated foreman, does not exist; all of which facts can be easily ascertained and confirmed by anyone who cares to make even the most superficial inquiry.

My only justification for trespassing to such an extent on your valuable space is the bearing this important question has upon the food supply of the people of this country, which it is in the interest of the community to foster rather than to restrict and curtail.

I am, Sirs, yours truly,

ROBT. E. DRUMMOND,
Secretary, Foreign Cattle Trade Association.

London, E.C., Nov. 18th, 1890.

*** We defer further comments on this subject until the report of the Royal Commission shall have been made known.—ED. L.

Mr. R. P. Jeffreys.—Art. 156 says: "No appointment shall be made under this order unless a notice that the question of making such appointment will be brought before the board has been given and entered on the minutes at one of the two ordinary meetings of the board next preceding the meeting at which the appointment is made, or unless an advertisement giving notice of the consideration of such appointment shall have appeared in some public paper by the direction of the guardians at least seven days before the day on which such appointment is made, provided that no such notice or advertisement shall be necessary for the appointment of an assistant or temporary substitute." The guardians, under the plea of urgency or "exceptional case," have power to do almost what they like, and the central authority, as a rule, sanctions their action.

Graduate.—Before inserting our correspondent's letter it would be well to know if the patient in question is hypermetropic, or whether the vision has been tested at all.

MARSHALL HALL'S READY METHOD FOR RESTORING THE APPARENTLY DROWNED.

To the Editors of THE LANCET.

SIRS,—The mode of artificial respiration introduced first through the columns of THE LANCET by my late uncle, Dr. Marshall Hall, has been brought into prominence again by Dr. Richardson's recent article in the *Asclepiad*, No. 27, on "Artificial Respiration, its Theory and Practice." As a layman, I cannot enter into the technical merits of the Marshall Hall method, but I would claim for it two advantages—one, its extreme simplicity, making it truly the "ready method," as he called it; and the other the fact that, when properly carried out, it commences by emptying the bronchial tubes of any adventitious fluid, so that air, on re-entering the lungs, may inflate them fully without risk to the delicate structure.

I see that Dr. Richardson makes much of this, and, to ensure it, recommends a hot-air bath for the patient, even to 120° F., so as to cause quick evaporation. This would be good where such a bath is obtainable, but when it is not (or even when it is) surely the Marshall Hall procedure, so reasonable and simple, ought never to be neglected in the treatment of the apparently drowned.

I have the honour to be, Sirs, yours faithfully,

Buckingham, Nov. 19th, 1890. LAURENCE R. HALL.

D.P.H.—We are not aware that the question has been raised. We assume that those who hold the D.P.H. England, but who are not Licentiates of the Royal College of Physicians or Members of the Royal College of Surgeons, would have all the privileges attaching to those qualifications, other than those defined by statute or otherwise as especially belonging to the Licentiates and Members of those bodies respectively. But inquiry should be made to the authorities of the Colleges.

NEALE'S MEDICAL DIGEST.

To the Editors of THE LANCET.

SIRS,—Permit me to endorse and emphasise every word written by Dr. Neale, in your issue of to-day, in praise of his own work, "The Medical Digest." I fear it is neither known nor appreciated as it ought to be. It is a work of supreme importance to every one who requires to refer to the medical literature of the past half century; and surely this should include every medical practitioner throughout the world. Personally, I find it invaluable, and I trust Dr. Neale may long be spared to revise and extend his fruitful labour. May I also express the hope that, for the benefit of future generations, he will associate with himself coadjutors who may continue the work when it becomes too arduous for him to pursue? May the day be distant!

I am, Sirs, yours truly,

Reading, Nov. 8th, 1890. J. HOPKINS WALTERS.

*** This letter should have appeared in our last issue.—ED. L.

THE EMIN PASHA RELIEF EXPEDITION.

IN the description of our analysis of the contents of the medicine chest submitted to us by Messrs. Burroughs and Wellcome, page 1037, line 2 of second column, we note an obvious typographical error. The decimal 0·167 in the first line is correct; but the fraction was misprinted ½ gr. instead of ⅓ gr., as it ought to have been.

J. P., M.D.—1. No special degrees or examinations are required for public analysts. But the Local Government Board, before sanctioning any such appointment, require the written evidence of responsible teachers or other persons to the effect that the analyst appointed has gone through such a course of study and practice as fits him chemically for the post, and as will enable him to some extent to judge of the health considerations involved in certain analytical work.—2. The appointments are in the gift of the President for the time being; but we believe they are only given to persons concerning whom the President is advised that, by reason of their qualifications or previous career, they are fitted to act in the capacity referred to. A diploma in public health would, apart from some lengthened experience as a health officer, probably be deemed requisite under present circumstances.

Dr. J. B. Russell's letter arrived too late for publication in our present number.

"THE TITLE OF 'PHYSICIAN' USED BY GRADUATES."

To the Editors of THE LANCET.

SIRS,—It seems to me that the important question of the legal right to use the title "physician" can be definitely settled by reference to the form of a certificate of insanity. In this legal document a medical practitioner may call himself either physician, surgeon, or apothecary; but no other description (not even the useful "general practitioner") is allowed. Many University graduates can and do sign these certificates, and they must legally use one of these words, though they are neither Fellows, Members, nor even Licentiates of the Royal Colleges, nor Licentiates of the Society of Apothecaries.

With regard to the other side of the question, doubtless none but an M.D. has any legal right to the title "doctor"; but it seems now too late, supposing that it were desirable, to adhere to this strictly, any more than to the strict legal use of the word "Esquire." In fact, even the University authorities transgress the legal limits, and refer to Bachelors of Medicine by the courtesy title of "doctor."—Yours faithfully,

Nov. 17th. M.B., C.M. ED.

NETTLERASH.

To the Editors of THE LANCET.

SIRS,—My little daughter, aged four years, is very sorely troubled with nettlerash. It attacks her every few months, but especially severely each autumn; and each autumnal attack is worse than that of the previous autumn. During the present attack, which has already lasted three weeks, most of the spots have developed pus and formed into scabs, and some, probably from scratching, have ulcerated. To-day a fresh rash appears, before the sores resulting from the former rash are healed. Otherwise the child is in, and has always had, perfect health. Her diet, though varied, is very uniform throughout the year, and is of the most wholesome description; her only sweetmeat is plain chocolate. I have tried ichthyol, naphthol, and arsenic, each for weeks, with no result. Perhaps one of your many readers could suggest a remedy. I am, Sirs, yours faithfully,

November, 1890. M.B. 1874.

Vendor and Purchaser.—The fees mentioned belong strictly to B, but it is an exceptional case, and should be regarded so by him.

Mr. H. Case.—The apparatus may be obtained of Messrs. Allen and Sons, 23, Marylebone-lane, Oxford-street, W.

ERRATUM.—In the description of the baths at the Liverpool Royal Infirmary last week, p. 1053, the name Stourbridge was misprinted "Mourbridge."

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Sansom, London; Mr. F. Treves; Dr. Savill, London; Dr. B. O'Connor; Mr. F. Hewitt, London; Mr. Thorn, London; Dr. Chapman, London; Mr. C. Hawkins, London; Mr. Knowles, St. Helens; Mr. W. Parker, Bath; Dr. Helm; Dr. Bennell, Liverpool; Dr. R. Bell, Glasgow; Mr. R. Ellis, Newcastle-on-Tyne; Dr. Douglas, Perth; Dr. G. Fleming, St. John's; Dr. Mackay, Huelva; Dr. Giacich, Fiume; Dr. O'Neill, Belfast; Mr. G. Balfour, Wimbledon; Dr. A. G. Barrs, Leeds; Dr. C. Hoar, Maidstone; Dr. Larcen, Copenhagen; Mr. Jeffreys, Chesterfield; Mr. H. C. Fox, Benger; Dr. Herringham, London; Mr. C. H. Sers, London; Mr. G. E. J. Greene, Wexford; Messrs. H. A. Goodall, London; Mr. Donald, London; Dr. R. Arthur, London; Mr. G. S. Bigg, London; Mr. G. R. Vicars, Revesby; Mr. Geissler; Mr. S. C. Smith, Leeds; Mr. F. Savery, Hull; Mr. Scott, London; Mr. Bland Sutton, London; Mr. H. Sewill, London; Surgeon Rodgers, Mysore Province; Mr. Blount, Paris; Dr. F. Taylor, London; Dr. Fletcher Little, London; Dr. A. I. Bolton, Kustendjie; Messrs. Richardson and Co., Leicester; Dr. Strahan, Northampton; Messrs. Haggett and Co., London; M. Talamon, Paris; Messrs. Burgoyne, Burbidges, and Co., London; Dr. Ridge, Enfield; Dr. Quartey-Papafio, Elmina, Gold Coast; Mr. Dykes, Hamilton; Mrs. Needes, London; Dr. Norman Dalton, London; Mr. Sell, London; Mr. Grive, Byfield; Dr. Lloyd Tuckey, London; Mr. Stenhouse, Glasgow; Mrs. Aldridge, Southampton; Mr. Fawcett, Highgate; Mr. Bird, Ryde; Mr. Thin, Edinburgh; Mr. Barnitt, Worcester; Mr. Denselow, Fulham; Dr. Tetley, Salop; Mr. Miller, London; Mr. Crisp, Stafford; Mr. Simmonds, Newbury; Dr. Blake, London; Mr. Heron, London; Mr. Dickinson, Southfields; Dr. Bentley, Norfolk; Mr. Bartlett; Mr. Taylor, Nottingham; Mr. Kingzett, London; Dr. Low, St. Massilia; Mr. Swift, Adelaide; Dr. Gangitano, Naples; Mr. L. R. Hall; Messrs. Duncan and Flockhart, Edinburgh; Dr. C. Mason, London; Messrs. Chubb and Son, London; Prof. Dunstan, London; Messrs. Hopkinson and Co., Nottingham; Dr. Willis, Llanfairfechan; Miss Pudney, Earl's Colne; Mr. Burdett, London; Dr. Barr, Liverpool; Mr. Raymond Johnson, London; Dr. J. B. Russell, Glasgow; Messrs. Krohne and Sesemann, London; Dr. W. C. Daniel, Edinburgh; Messrs. Orridge and Co, London; Dr. J. W. Robinson, Huddersfield; Dr. Seymour Taylor, London; Dr. Burnet, London; Mr. Hill, London; Mr. Van Praagh, London; Dr. Urquhart, Perth; Messrs. Mackey, Mackey, and Co., London; Dr. H. Campbell, London; Mrs. L. Rogers; Dr. Burney Yeo, London; Dr. G. A. Gibson, Edinburgh; Messrs. Hargreaves and Son, Preston; Dr. McMordie, Belfast; Mr. G. Stoker; Mr. Lennox Browne, London; Mr. T. W. J. Allen, Grimsby; Messrs. Ewart and Son; Mr. P. J. Bailey, Hanwell; Mr. R. E. Drummond; Mr. E. Luke Freer, Birmingham; Mr. H. Cane, Belvedere; Messrs. J. Philip and Co., London; Dr. Jeaffreson, Newcastle-on-Tyne; Mr. Fernandez, Ross; Mr. A. Conolly, London; Dr. Willcocks, London; Mr. Burke, Wolverhampton; Dr. Chevalliereau, Paris; Mr. Gamble; Mr. Grant, London; Mr. Dames, London; Mr. Elliott, Todmorden; Mr. Haviland, Douglas; Mr. Shepherd, Kidderminster; Sister Musgrave, Lancs; D. P. H.; Pathologicus; Yorkshire, London; Secretary, Devonshire Infirmary; M.B., C.M.Ed.; T. C. M.; A.; Graduate; Physician and Surgeon; Beta, Leeds; A. H., Douglas; Medicus, Cardiff; Maltine Co., London; Rus, London; Physician, London; Secretary, Taunton Hospital; Rev., M.A., London; C. H. T., London; Secretary, Public Hospital, &c., Sheffield; G. N., London; Vendor and Purchaser.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Smyth, London; Mr. Waller, Ash; Mr. Tully, Hastings; Messrs. Blondeau et Cie., London; Mr. Dunlop, Southampton; Mr. Swanton, Colney Hatch; Dr. Hurd, Baltimore; Dr. Harkin; Mr. W. H. Laban, West Bromwich; Dr. Bonar, Cornwall; Mr. Ruck, Devizes; Messrs. White and Son, London; Dr. Corry, Victoria, Australia; Messrs. Margrave Bros., Llanelly; Mr. Tyte, Minchinhampton; Messrs. Woolley and Sons, Manchester; Mr. Neville, Worcestershire; Miss Pudney, Earl's Colne; Mr. Roderick, Salop; Mr. Purland, Woolwich; Messrs. Eason and Son, Dublin; Mr. Clowes, Bolton; Mr. O'Meara; Dr. Brown, New York; Mr. Williams, Coleford; Messrs. Rowntree; Miss Pink, South Devon; Miss Browne, Birmingham; Mr. Lacy; Mr. Eales, West Bromwich; Mr. Foale, Devon; Mr. Jones, Bicester; Messrs. Morans and Son, Sunderland; Dr. O'Hanlon, Durham; Miss Rogers, Colwyn Bay; Dr. Williams, Talgarth; Mr. Oliver, Doncaster; Mr. Dodds, Low Fell; Mr. Garner, Preston; Mr. Nodes, London; Mr. Fox, Child's Hill; Mr. Jackson, Oxford; Mr. Bird, Ryde; Mr. Bellord, Great Portland-street; Dr. Williams, Grosvenor-square; Miss Crawhall, Durham; Mr. Groves, Maida-vale; Mr. Shaw, Carnforth; Dr. Dott, Manchester; Mr. Heywood, Manchester; Mr. Jacoby, Stoke-on-Trent; Mr. Lidley, Honiton; Mrs. Campbell, London; Mr. Barron, Southport; Mr. Ward, Brotherton; Mr. Williams, Bristol; Mr. Hale, Chesterfield; Miss Monrad, Denmark; Mr. Buchanan, Glasgow; Mr. Shelswell, Mitcham; Dr. Davies, Monmouth; Dr. Milne, Accrington; Sussex, London; Medicus, Margate; A. B., London; R. W.; Treasurer, School of Medicine, Sheffield; Matron, Leeds; Smedley's Hydropathic; C. R. W., London; Creta, London; Secretary, Rubery Asylum, Worcester; Companion, Cheshire; Treasurer, University College, Dundee; Alpha, London; Beta, London; H., London; Sister Mary, London; Parturiens, London; National Dental Hospital and College; Doctor, London; Secretary, Royal Infirmary, Hull; Windsor Royal Infirmary; Salix, London; Kew, London; Medicus, Sheerness; Iota, London; F. W. L., London; X., Paddington; Diploma, London; Phlox, Fulham-road; H. S., Edinburgh; Matron, Manchester; A. B., Norwood; Statim, London; V. H., London; Zircon, London; Beckford, Leicester; Davis, M.D., London; D. P. H., Southwark; Norfolk, London; Cantab., London; Omega, Leeds; Officer, London; Bistoury, London; Medicus, Bradford; Veronica; Pulvis.

NEWSPAPERS.—*Leeds Mercury, Port Elizabeth Telegraph, Dundee Advertiser, North British Mail, Liverpool Daily Post, Bristol Mercury, West Sussex Gazette, Scottish Leader, Insurance Monitor, Montreal Herald, Kilburn Post, Glasgow Herald, Birmingham Gazette, Builder, Globe Democrat, Manchester Guardian, Sheffield Independent, Birmingham Post, Scotsman, Toronto Mail, Liverpool Courier, Newcastle Leader, Kilkenny Journal, Architect, Sheffield Daily Telegraph, West Middlesex Advertiser, Spectator, Surrey Advertiser, City Press, Reading Mercury, Weekly Free Press, Law Journal, Magazine and Book Review, Guy's Hospital Gazette, Land and Water, Mining Journal, Hertfordshire Mercury, Windsor and Eton Gazette, Boston Globe, Weekly Freeman, Rangoon Gazette, Economist, Newcastle Leader, Hull Express, Elgin Courant, Temperance Record, Newark Advertiser, Oswestry Advertiser, Whitehaven News, Hexham Courant, Hastings Independent, Cheshire Observer, Warwick Advertiser, Morning News (Toronto), Southampton Times, Home and Colonial Mail, Bury Free Press, Chester Courant, Suffolk Chronicle, Cleveland Mercury, Rugby Advertiser, Herefordshire Times, Royal Cornwall Gazette, Auckland Chronicle, Awake! &c.*, have been received.

Medical Diary for the ensuing Week.

Monday, November 24.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

ST. MARK'S HOSPITAL.—Operations, 2.30 P.M.; Tuesday, 2.30 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

HOSPITAL FOR DISEASES OF THE THROAT (Golden-square, W.).—Dr. Greville MacDonald: Rhinitis. (Post-Graduate Lecture.)

LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital, Moorfields: 1 P.M., Mr. M. Gunn: External Diseases of the Eye. New Infirmary, Paddington: 4 P.M., Mr. F. Treves: Clinical Lecture on Modern Surgical Procedure. 5 P.M., Dr. Savill: Pathological Demonstration.

SOCIETY OF ARTS.—8 P.M. Prof. Vivian B. Lewes: Gaseous Illuminants. (Cantor Lecture.)

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Clinical Evening. Dr. Gilbart Smith: A case of Abdominal Pulsation.—Mr. M. Sheild: (1) A case of Radical Cure of a large Irreducible Hernia, when the Great Omentum was Removed; (2) A case of "Leucoplackia" of the Tongue, where Half the Organ was Removed for Epithelioma two years ago.—Mr. Davy: Fracture of Femur; subsequent Dislocation; Excision of Head, Neck, and Trochanter; Location of Trochanter Minor in Acetabulum.—Dr. Sansom: Cardiac Disease; Stetwray's and Von Graefe's Sign well marked, with little or no Exophthalmos.—Dr. Beevor: (1) Case of Athetosis; (2) Case of Masturbation at the age of Nine Months.—Sir Hugh Beevor: Absence of Pulse in Arteries of Right Upper Limb.—Dr. Colcott Fox: Dermatitis Herpetiformis.—Dr. Murray: Four Cretins.—Dr. Rivers: Case of Recurrent Paralysis of Third Nerve every Three Months.—Mr. H. Allingham: (1) Case of Gastrostomy; (2) Case of Ruptured Ureter.—Dr. Herringham (for Dr. Sutherland): A case of Congenital Deformity of the Arm.—Mr. Bruce Clarke: Immediate Suture of Ruptured Urethra.—Mr. Keetley: Excision of Ankle, and other cases.—Mr John Morgan: Child with Tail-like Projection over Sacrum.—Dr. Hadden: Hypertrophy of Leg.—Mr. Edmund Owen: Two cases of Cleft Palate after Operation.

Tuesday, November 25.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic operations, 4 P.M.; Friday, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

LONDON POST-GRADUATE COURSE.—Hospital for Diseases of Skin, Blackfriars: 4.30 P.M., Dr. Payne: Pemphigus and Herpes.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—8 P.M. Mr. A. Wynter Blyth: Sanitary Laws and Regulations governing the Metropolis.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Mr. J. H. Morgan: On 114 consecutive cases of Operation for Calculus in the Bladder, performed at the Hospital for Sick Children, and a Comparison of the Methods adopted.—Dr. F. Hewitt: Clinical Observations upon Respiration during Anæsthesia, with special reference to the Causes of Embarrassed and Obstructed Breathing.

Wednesday, November 26.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical Visits on Wednesday and Saturday at 9.15 A.M.

LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. Green: Clinical Demonstration of Cases in the Wards. Royal London Ophthalmic Hospital: 3 P.M., Mr. A. Quarry Silcock: Ophthalmoscopic Cases.

ANATOMICAL SOCIETY (Charing-cross Hospital School Buildings).—4.30 P.M. Election of Officers. Prof. A. Macalister: Notes on Specimens from the Dissecting-room.—Prof. Stewart: Section of the Scalp of an Adult Negro, showing the Curved Hair Follicles.—Mr. A. Thomson: On the Skin and Hair of a Negro Fœtus.—Dr. G. Gulliver: On a Skull with Wormian Bones in the Frontal Suture.—Mr. F. G. Parsons: Specimens of Short Muscles of the Thumb.—Mr. C. B. Lockwood: Synostosis of Vertebræ.

HUNTERIAN SOCIETY.—8 P.M. Mr. G. J. B. Stevens: Notes of a case of Syphilitic Sore of Finger.—Mr. J. Hutchinson, jun.: On certain Injuries to the Elbow-Joint and their Treatment.

SOCIETY OF ARTS.—8 P.M. Mr. Francis Galton: Physical Tests in Competitive Examinations.

BRITISH GYNÆCOLOGICAL SOCIETY.—8.30 P.M. Dr. Aveling will read a paper explaining the objects of the Midwives' Registration Bill as amended by the Select Committee of the House of Commons, and will move a resolution approving its principle. Members of the medical profession invited.

Thursday, November 27.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

LONDON POST-GRADUATE COURSE.—National Hospital for the Paralysed and Epileptic: 2 P.M., Mr. Victor Horsley: Surgical Treatment of Diseases of the Brain and Spinal Cord. Hospital for Sick Children, Gt. Ormond-st.: 4 P.M., Mr. J. H. Morgan: The Modern Aspects of Operative Surgery in Childhood (No. 2).

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Abercrombie: Cases in the Children's Ward. (Post-Graduate Course.)

Friday, November 28.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—4 P.M. Dr. C. R. Drysdale: A Reply to some Doubts as to the Superior Health or Longevity of Total Abstainers.

LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. Green: Clinical Demonstration of Cases in the Wards.

CLINICAL SOCIETY OF LONDON.—Living Specimens at 8 P.M.:—Dr. Sidney Phillips: A small Aneurysm in the Neck attributed to Suppuration from Scarlet Fever.—Mr. W. G. Spencer: A case of Arrested Development of the Third, Fourth, and Fifth Metacarpal Bones in both Hands. Mr. A. Lane: An Unusual Kind of Congenital Deformity of Palate and Lip. And other cases. Papers at 9 P.M.:—Mr. Buckston Browne: A case in which several Fragments of Bone were Removed from the Male Urinary Bladder.—Dr. Goodhart: Two cases of Hydronephrosis relieved by Natural Effort.—Mr. Barker: Two cases of Dermoid Cyst in connexion with the Tongue.

Saturday, November 29.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department 9.15 A.M.

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